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**Hazardous Materials Spill Monitoring
Safety Handbook and Chemical Hazard
Guide. Part B - Chemical Data**

(U.S.) Environmental Monitoring and Support Lab, Las Vegas, NV

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Hazardous Materials Spill Monitoring

Safety Handbook and Chemical Hazard Guide

Part B - Chemical Data

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16. ABSTRACT This two-part document is intended to serve as a guide to the hazards associated with a broad range of chemical compounds which may be encountered in hazardous materials spills. The document addresses 655 chemicals identified on the basis of known toxicity or spill history and designated "hazardous" by the U.S. Environmental Protection Agency. Part A of this document is a safety and first aid reference for personnel responding to spills of hazardous materials which may involve any of the chemicals addressed. It includes safety considerations, first aid procedures, and descriptions of protective equipment; a description of the hazard-rating system used in Part B; and a priority listing of hazardous materials based on their hazard ratings and reported spill frequency. Part B of this document is an index of the 655 chemicals. Part B includes a data sheet for each chemical showing its CAS number, synonyms, and hazard priority number, and giving information on hazards, safety measures, and exposure. This part is provided in a form for loose-leaf binding to facilitate addition, revision, and update as new data become available.		
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HAZARDOUS MATERIALS SPILL MONITORING

Safety Handbook and Chemical Hazard Guide
Part B - Chemical Data

by

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SECTION 1. INTRODUCTION

Part B - Chemical Data should be used in conjunction with Part A of this manual as a reference to the nature and known hazards of 655 specific chemical compounds. Safety and first aid measures in the event of exposure are included. Part B is not designed as a stand-alone reference. It is packaged in its present form, separate from Part A, to facilitate the addition of new chemical data sheets and allow update or modification of the chemical data already included, as new information becomes available.

It is strongly recommended that personnel be familiar with the contents of this manual and have read the introductory chapters (Part A) prior to responding to spills of any type.

Part A should be inserted and maintained in a loose-leaf binder with Part B. The user must be familiar with the explanatory information of Part A to effectively utilize the chemical data sheets in Part B of this manual.

Part A discussed toxicity and factors determining and influencing toxic effects; protective measures to avoid exposure, and first aid practices in the event of exposure to hazardous substances; and factors which may complicate the spill-site picture. Also included in Part A is a method for prioritizing chemical spills on the basis of specific health, reactivity and fire hazards and historical spill frequencies. A group of 273 chemical compounds are so ranked, using the formula presented.

Information essential to the effective use of the chemical data sheets (Part B), e.g., explanation of the coding system for hazard identification, as well as the sources of the chemical information used are presented in Part A.

Part B contains an index of the 655 chemical compounds addressed by this manual, followed by alphabetized chemical data sheets with specific precautionary information and first aid procedures. The data sheets cross-reference the known common synonyms of the various chemicals as well as available trade names.

The information included in the chemical data sheets of Part B represents material that was available in the source reference documents as of 1975. Data sheets are included for 655 compounds, even when no information was listed. These sheets can be updated as information on the compounds becomes available.

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SECTION 2. INDEX OF CHEMICALS ADDRESSED

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CAS No. 75-07-0	ACETALDEHYDE Colorless, watery liquid; sharp fruity odor.	
SYNONYMS	Acetic aldehyde, ethanal, ethyl aldehyde	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear self-contained breathing apparatus. All equipment should not have exposed rubber parts.	
HAZARDS	Extremely flammable. Vapor may explode if ignited in an enclosed area. Severely explosive. Can react with oxidizing materials. Eye, skin and respiratory irritant. Can produce severe eye burns. Prolonged inhalation may have narcotic effect. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause nausea, vomiting, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID	

CAS No. 64-19-7	ACETIC ACID Colorless, watery liquid; strong vinegar odor.	
SYNONYMS	Ethanoic acid, vinegar acid, methane carboxylic acid, glacial acetic acid. Vinegar is dilute acetic acid.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing.	
HAZARDS	Combustible. Vapor may explode if ignited in an enclosed area. High explosive hazard when exposed to flame. Can be irritating, can cause burns. When heated to decomposition it emits toxic fumes. Repeated inhalation of vapor may cause chronic inflammation of upper respiratory tract and chronic bronchitis. TLV 10 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to nose and throat. If inhaled will cause coughing, nausea, vomiting or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid or Solid</u> Will burn skin or eyes. Harmful if swallowed. Remove contaminated clothing and shoes. IF IN EYES, hold eyelids open and flush with plenty of water. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 108-24-7	ACETIC ANHYDRIDE Colorless, water liquid; strong vinegar odor.	
SYNONYMS	Ethanoic anhydride, acetyl oxide, acetic oxide.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable liquid. Vapor may explode if ignited in an enclosed area. When heated to decomposition, will emit toxic fumes. Can react vigorously with oxidizing materials. Reacts vigorously with water to form acetic acid. Corrosive on contact with tissue. Especially hazardous to the eyes - with delayed action will cause burn. Will react violently on contact with water or steam. TLV 5 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor Will burn eyes. Irritating to nose and throat. Move to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 75-86-5	ACETONE CYANOHYDRIN Colorless, watery liquid; mild almond odor.	
SYNONYMS	Alpha-hydroxyisobutyranitrile, 2-methylactonitrile, oxyisobutyric nitrile.	
SAFETY MEASURES	Stay upwind. Wear chemical protective suit with self-contained breathing apparatus.	
HAZARDS	Combustible liquid. Forms explosive mixture with air. Readily decomposes to hydrocyanic acid and acetone. Poisonous gases are produced when heated. Highly toxic by ingestion, inhalation and skin absorption. TLV 10 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 75-05-8	ACETONITRILE Colorless, watery liquid; sweet odor.	
SYNONYMS	Methyl cyanide, cyanomethane, ethanenitrile.	
SAFETY MEASURES	Wear self-contained breathing apparatus and goggles. Stay upwind. Treat as cyanide.	
HAZARDS	Flammable liquid. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. Can react with oxidizing materials. Vapor may explode if ignited in an enclosed area. Will react with water, steam or acids to produce toxic and flammable vapors. Highly toxic, can be absorbed through skin and respiratory tract. High concentrations cause rapid death. Products of decomposition are highly toxic. TLV 40 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Treat as cyanide <u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 98-86-2	ACETOPHENONE Colorless liquid; flowery-sweet odor.	
SYNONYMS	Acetylbenzene, methyl phenyl ketone, phenyl methyl ketone, hypnane, hypnone.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Reacts with oxidizing materials. Narcotic in high concentrations.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 506-96-7	ACETYL BROMIDE Colorless fuming liquid; turns yellow in air.	
SYNONYMS	Ethanoyl bromide.	
SAFETY MEASURES	Avoid contact with skin and eyes. Wear self-contained breathing apparatus and goggles, stay upwind.	
HAZARDS	Flammable. Highly explosive. Decomposes violently on contact with moisture. Dangerous when heated to decomposition, it produces fumes of carbonyl bromide and bromine. Reacts with oxidizing materials. Highly toxic by ingestion or inhalation. Strong irritant to eyes and skin. See bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 74-86-2	ACETYLENE Colorless compressed gas; mild garlic odor.	
SYNONYMS	Ethine, ethyne.	
SAFETY MEASURES	Stay upwind. Wear self-contained breathing apparatus.	
HAZARDS	Highly flammable. Mixture of air and acetylene will explode. At high pressure and moderate temperature, will decompose explosively to form explosive compounds with copper, silver and mercury. Forms spontaneously explosive acetylene chloride in contact with chlorine. When mixed with oxygen, acetylene can act as a narcotic and has been used as an anesthetic. Nontoxic but can cause asphyxiation by exclusion of oxygen. NOT HARMFUL TO AQUATIC LIFE.	
EXPOSURE	Gas Not irritating to eyes, nose or throat. If inhaled will cause headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. CALL FOR MEDICAL AID.	

CAS No. 107-02-8	ACROLEIN Colorless or yellowish liquid; choking odor.	
SYNONYMS	2-Propenal, acrylic aldehyde, acraldehyde, allyl aldehyde.	
SAFETY MEASURES	Wear goggles, self-contained breathing apparatus and impervious protective clothing.	
HAZARDS	Highly flammable liquid when exposed to heat or flame. Vapor may explode if ignited in an enclosed area. When heated it decomposes to form highly toxic fumes. Can react vigorously with oxidizing materials. Small amounts are highly toxic and poisonous. Highly irritating to eyes and respiratory tract. May result in serious burns. TLV 0.5 ppm in air.	
EXPOSURE	<u>Liquid</u> Irritates eyes, skin, and respiratory tract. May result in serious burns. IF IN EYES, hold eyelids open and flush with plenty of water. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 79-10-7	ACRYLIC ACID Colorless watery liquid; irritating odor.	
SYNONYMS	Propenoic acid, acroleic acid, n-butyl acrilate.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear full protective clothing, goggles, self-contained breathing apparatus and rubber clothing (including gloves).	
HAZARDS	Flammable liquid. POISONOUS GASES MAY BE PRODUCED IN FIRE. Moderately explosive. Vapor may explode if ignited in an enclosed area. When heated to decomposition, produces lightly toxic fumes. Can react with oxidizing materials. Liquid corrosive to skin. Toxic - one of the most serious eye injury chemicals.	
EXPOSURE	Vapor Irritating to eyes, nose, and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid or Solid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS NO. 107-13-1	ACRYLONITRILE	
SYNONYMS	Propenenitrile, vinyl cyanide.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable liquid. POISONOUS GASES MAY BE PRODUCED IN FIRE. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Dangerous on decomposition or on contact with acid. Produces highly toxic fumes of cyanides. Toxic by inhalation, ingestion or skin absorption. TLV 20 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Contact with skin may produce welts. Remove contaminated clothing and shoes. IF IN EYES hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping the victim warm. CALL FOR MEDICAL AID.	

CAS No. 111-69-3	ADIPONITRILE Colorless-to-light yellow; odorless liquid.	
SYNONYMS	1,4-Dicyanobutane, tetramethylene cyanide.	
SAFETY MEASURES	Avoid contact with liquid. Wear special protective clothing and self-contained breathing apparatus.	
HAZARDS	Flammable when exposed to heat or flame. Vapor forms explosive mixture with air. POISONOUS GASES MAY BE PRODUCED IN FIRE. Can react with oxidizing materials. Highly toxic by ingestion, inhalation and skin absorption. Produces disturbances of the respiratory and circulatory systems. See hydrocyanic acid and nitriles. TLV 20 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 309-00-2	ALDRIN Brown solid or solution; mild chemical odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing, including gloves.	
HAZARDS	The dry powder will not burn. If heated to decomposition, emits highly toxic fumes of hydrogen chloride, chlorinated breakdown products and phosgene. Commercial solutions may contain flammable or combustible liquids. Severe poisoning may result from ingestion of 1 to 2 grams. Toxic by skin contact, inhalation, or swallowing. Solutions containing 10% or more are rapidly absorbed by the skin. Spray mists are extremely hazardous. TLV 25 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Gases</u> - POISONOUS GASES ARE PRODUCED WHEN HEATED. <u>Solid or Solution</u> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 107-18-6	ALLYL ALCOHOL Colorless, watery liquid; sharp mustard odor.	
SYNONYMS	2-propen-1-ol, propenyl alcohol, vinyl carbinol.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Highly flammable liquid. POISONOUS GASES MAY BE PRODUCED IN FIRE. Vapor forms explosive mixture with air. Moderate explosion hazard when exposed to heat or flame. Reacts vigorously with oxidizing materials. Highly toxic by ingestion and inhalation. Strongly irritant to eyes. Readily absorbed through skin. High concentration causes narcosis and kidney damage. TLV 2 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN EXPOSED. Irritating to eyes, nose and throat. Move to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 107-05-1	ALLYL CHLORIDE Colorless to brown-red liquid; irritating odor.	
SYNONYMS	3-chloropropene, 3-chloropropylene.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing. Stay upwind.	
HAZARDS	Highly flammable liquid. POISONOUS GASES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Highly toxic. Absorbed through the skin. Contact may result in temporary loss of vision. Vapor is painfully irritating to skin, eyes, and nose. Exposure to saturated atmosphere might be lethal in a few minutes. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED OR IF SKIN EXPOSED. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Remove contaminated clothing. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 7446-70-0	ALUMINUM CHLORIDE Yellow-grayish crystals or powder; irritating odor	
SYNONYMS		
SAFETY MEASURES	Avoid contact with solid or dust. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Not explosive or combustible but may react slowly in a fire. Reacts violently with water to form hydrochloric acid. Highly toxic. Will cause burns on contact with skin and eyes. Severe respiratory irritant. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7784-18-1	ALUMINUM FLUORIDE White, odorless, solid powder or granules.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with dust. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Noncombustible. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. Highly toxic. Strong irritant to tissue. TLV 2.5 mg/m ³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Dust If inhaled, irritating to nose and throat. Move to fresh air. CALL FOR MEDICAL AID.	

CAS No. 10043-01-3	ALUMINUM SULFATE	
SYNONYMS	Cake alum	
SAFETY MEASURES	Guard against ingestion. Avoid breathing dust.	
HAZARDS	Non-flammable. Hydrolyzes readily to form sulfuric acid which acts as a tissue irritant, particularly to the lungs. See sulfuric acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

	AMINES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity variable; some are highly toxic, others only slightly. Many are skin irritants and some are sensitizers.	
EXPOSURE		

CAS No. 111-41-1	AMINOETHYLETHANOLAMINE Colorless liquid; mild ammonia odor.	
SYNONYMS	Hydroxyethyl-ethylenediamine, N-(2-aminoethyl), ethanolamine, 2[(2-aminoethyl)amino] ethanol, N-8-Hydroxyethylenediamine, N-hydroxyethyl-1,2-ethanediamine	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing.	
HAZARDS	Combustible. May react with oxidizing materials.	
EXPOSURE	Liquid Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7664-41-7	AMMONIA Colorless, liquefied compressed gas; ammonia odor.	
SYNONYMS	Liquid ammonia, ammonia gas.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Flammable. Presence of oil or other combustible materials will increase fire hazard. When exposed to heat it emits toxic fumes of ammonia. TLV 100 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. If swallowed, corrosive to mouth, throat and stomach. Will cause frostbite. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 631-61-8	AMMONIUM ACETATE	
SYNONYMS		
SAFETY MEASURES	Wear goggles and protective clothing.	
HAZARDS	Combustible. Potential source of burns. Acid solution may cause irritation.	
EXPOSURE		

CAS No. 1863-63-4	AMMONIUM BENZOATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS		
EXPOSURE		

CAS No. 1066-33-7	AMMONIUM BICARBONATE	
SYNONYMS	Ammonium acid carbonate, ammonium hydrogen carbonate	
SAFETY MEASURES		
HAZARDS	Noncombustible. Decomposes at 36°- 60°C to evolve ammonia. See ammonia.	
EXPOSURE		

CAS No. 7789-09-5	AMMONIUM BICHROMATE Yellow needles.	
SYNONYMS	Ammonium dichromate.	
SAFETY MEASURES	Wear skin protection and industrial mask. Fire and heat may necessitate use of self-contained breathing apparatus.	
HAZARDS	Flammable. May explode on contact with organic materials. Strong oxidizing agent. Dust may cause skin and nasal irritation and asthmatic symptoms. Strong solutions can be irritating to skin. See chromium compounds. TLV 0.1 mg/m³ in air.	
EXPOSURE	<u>Solutions</u> If swallowed, cause prompt vomiting. If retained, may lead to kidney injury and ulceration of the stomach. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. <u>Dust</u> Irritating to skin and respiratory tract. Move to fresh air. CALL FOR MEDICAL AID.	

CAS No. 1341-49-7	AMMONIUM BIFLUORIDE White crystals.	
SYNONYMS	Ammonium hydrogen fluoride, ammonium acid fluoride.	
SAFETY MEASURES	Wear self-contained breathing apparatus.	
HAZARDS	Decomposes in hot water. Highly toxic, strong irritant. See fluorides and ammonia. TLV 2.5 mg/m ³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10192-30-0	AMMONIUM BISULFITE White crystals.	
SYNONYMS	Ammonium hydrogen sulfite	
SAFETY MEASURES		
HAZARDS	Will react with water to form toxic and corrosive fumes. See sulfates and ammonia.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10361-29-1	AMMONIUM CARBONATE Colorless, crystalline plates.	
SYNONYMS	Crystal ammonia, ammonium sesquicarbonate, hartshorn	
SAFETY MEASURES	Wear skin protection and self-contained breathing apparatus.	
HAZARDS	Noncombustible. Moderately explosive. Decomposes in hot water to produce ammonia and carbon dioxide. Releases flammable ammonia gas in fire. When heated to decomposition, emits toxic fumes. Mild chronic irritant.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 12125-02-9	AMMONIUM CHLORIDE White crystals.	
SYNONYMS	Sal ammoniac	
SAFETY MEASURES	Wear goggles and protective clothing. Self-contained breathing apparatus may be required if in high concentrations.	
HAZARDS	Noncombustible. Fumes toxic by inhalation. Toxic - large doses cause nausea, vomiting and acidosis. Slight chronic irritant. Systemic hazard.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 52110-72-2	AMMONIUM CHROMATE Yellow crystalline material.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Dust is moderate fire hazard. Can react with reducing materials. Can explode if shocked or heated. Severely toxic as chromate. Chromate salts have been associated with cancer of the lungs. Corrosive effect on skin. Highly toxic when ingested or inhaled. TLV 0.1 mg/m³.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7632-50-0	AMMONIUM CITRATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Slightly toxic.	
EXPOSURE		

CAS No. 14481-29-9	AMMONIUM FERROCYANIDE Yellow-to-blue crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition. On contact with hot concentrated acids will emit highly toxic fumes of cyanides. See cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13826-83-0	AMMONIUM FLUOBORATE Crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See fluorides and boron compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 12125-01-8	AMMONIUM FLUORIDE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly irritant and toxic. See fluorides and ammonia. TLV 2.5 mg/m (fluorides)	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 53238-22-5	AMMONIUM FLUOSILICATE Colorless crystals.	
SYNONYMS	Ammonium silicofluoride, cryptohalite	
SAFETY MEASURES		
HAZARDS	Strong irritant to skin and eyes. Highly toxic by ingestion and inhalation. TLV 2.5 mg/m³ (fluorides)	
EXPOSURE	IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 540-69-2	AMMONIUM FORMATE White deliquescent crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Fire hazard.	
EXPOSURE		

CAS No. 1336-21-6	AMMONIUM HYDROXIDE	
SYNONYMS	Ammonia water, aqueous ammonia, aqua ammonia ammonium hydrate	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves.)	
HAZARDS	Not flammable. When heated emits toxic fumes. Highly toxic by ingestion. Can react with oxidizing materials. Both liquid and vapor extremely irritating, especially to eyes. See Ammonia. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to skin, eyes, nose and throat. If inhaled, will cause nausea, vomiting, difficult breathing or loss of consciousness. Move to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7803-65-3	AMMONIUM HYPOPHOSPHITE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Evolved flammable and toxic fumes on heating. See phosphene.	
EXPOSURE		

CAS No. 12027-06-4	AMMONIUM IODIDE Colorless hygroscopic crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Moderately toxic. May cause skin rash. See iodides.	
EXPOSURE		

CAS No. 11098-84-3	AMMONIUM MOLYBDATE Colorless or yellowish or greenish crystals.	
SYNONYMS	Ammonium paramolybdate	
SAFETY MEASURES		
HAZARDS	Noncombustible. When mixed with water emits ammonia. Moderately toxic and irritant to skin and mucous membranes.	
EXPOSURE		

CAS No. 6484-52-2	AMMONIUM NITRATE Odorless solid pellets or flakes, white-gray-brown	
SYNONYMS	Nitran.	
SAFETY MEASURES	Evacuate area of large discharge. Wear self-contained breathing apparatus.	
HAZARDS	May cause fire and explode on contact with combustibles. POISONOUS GASES OF OXIDES-OF-NITROGEN MAY BE PRODUCED WHEN HEATED. CONTAINERS MAY EXPLODE IN FIRE. May explode under confinement and high pressure, but not readily detonated. Can react vigorously with reducing materials. When contaminated with other organic materials and flammable liquids is explosive, especially in compound spills. See nitrogen oxides.	
EXPOSURE	<u>Vapor</u> POISONOUS GASES MAY BE PRODUCED WHEN HEATED. Get to hospital immediately. <u>Dust</u> Irritating to eyes, nose and throat. If inhaled, may cause coughing or difficult breathing. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. CALL FOR MEDICAL AID.	

CAS No. 14258-49-2	AMMONIUM OXALATE Colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. Oxalates have caustic effect on mouth, esophagus, and stomach if swallowed. See oxalates.	
EXPOSURE		

CAS No. 12007-39-5	AMMONIUM PENTABORATE White solid.	
SYNONYMS	Ammonium decarborate	
SAFETY MEASURES		
HAZARDS	See boron compounds.	
EXPOSURE		

CAS No. 7790-98-9	AMMONIUM PERCHLORATE White, odorless, solid crystals.	
SYNONYMS		
SAFETY MEASURES	Wear goggles and self-contained breathing apparatus.	
HAZARDS	May cause fire and explode on contact with combustibles. CONTAINERS MAY EXPLODE IN FIRE. POISONOUS GASES MAY BE PRODUCED IN FIRE. Severely explosive when shocked. If contaminated by reducing materials it can become a very sensitive high explosive. Strong oxidizing agent. Skin irritant. See ammonia and chlorates.	
EXPOSURE	Solid Irritating to eyes and skin. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.	

CAS No. 7727-54-0	AMMONIUM PERSULFATE White crystals.	
SYNONYMS	Ammonium peroxydisulfate	
SAFETY MEASURES		
HAZARDS	Strong oxidizing agent. Dangerous fire hazard on contact with organic materials. Reacts vigorously with reducing agent. Low toxicity. See sulfates.	
EXPOSURE		

CAS No. 7773-06-0	AMMONIUM SULFAMATE Deliquescent crystalline material.	
SYNONYMS	Ammate	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or on contact with acid or water, it emits highly toxic fumes of sulfur oxides. Probably moderate toxicity. Ingestion may cause gastric irritation. TLV 15 mg/m³	
EXPOSURE		

CAS No. 7783-20-2	AMMONIUM SULFATE Brownish-gray to white crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Noncombustible. Yields toxic gasses, ammonia and sulfur trioxide when heated above 455°F. See sulfates.	
EXPOSURE		

CAS No. 12135-76-1	AMMONIUM SULFIDE Yellow hygroscopic crystals.	
SYNONYMS	Ammonium monosulfide.	
SAFETY MEASURES		
HAZARDS	Moderately flammable. Evolves hydrogen sulfide (highly toxic) on contact with acid or acid fumes. Strong irritant to skin and mucous membranes. Toxic by skin absorption. If taken internally, is corrosive. See sulfides.	
EXPOSURE	Irritating to skin, eyes, nose and throat. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 10196-04-0	AMMONIUM SULFITE Colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	When heated, emits highly toxic fumes. Will react with water or acids to produce toxic and corrosive materials. Moderately toxic by ingestion and inhalation.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14307-43-8	AMMONIUM TARTRATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS		
EXPOSURE		

CAS No. 1762-95-4	AMMONIUM THIOCYANATE Colorless solid.	
SYNONYMS	Ammonium sulfocyanate.	
SAFETY MEASURES		
HAZARDS	Thiocyanates are normally not dissociated into cyanides. They have low acute toxicity. Prolonged absorption may cause skin eruptions, runny nose, and occasionally dizziness, cramps, nausea and vomiting. Dangerous when heated to decomposition or in contact with acid or acid fumes, they might emit highly toxic fumes of cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7783-18-8	AMMONIUM THIOSULFATE White, monoclinic crystals.	
SYNONYMS	Ammonium hyposulfate.	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition; it emits highly toxic fumes of oxides of sulfur. Most of thiosulfates have low toxicity.	
EXPOSURE		

CAS No. 628-63-7	AMYL ACETATE Watery liquid, colorless to yellow; banana odor.	
SYNONYMS	Acetic acid n-amyl ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 71-41-0	n-AMYL ALCOHOL Colorless liquid; mild sweet odor.	
SYNONYMS	1-pentanol, primary amyl alcohol, pentyl alcohol, n-butylcarbinone.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Flammable. Vapor may explode if ignited in enclosed area. Moderately toxic by ingestion and inhalation. Maximum allowable concentration for inhalation 100 to 200 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled will cause coughing, nausea, headache, and difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. Harmful if swallowed. Irritating to skin. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 62-53-3	ANILINE Colorless to brown, oily liquid; weak odor.	
SYNONYMS	Amino benzene, aniline oil, phenylamine, blue oil.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical protective clothing with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Combustible liquid. Vapor may explode if ignited in an enclosed area. POISONOUS GAS IS PRODUCED WHEN HEATED. Highly toxic when absorbed through the skin, inhaled as a vapor, or swallowed. Local contact can cause dermatitis. Excessive exposure causes respiratory paralysis. TLV 5 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED OR IF SKIN EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 542-16-5	ANILINE SULFATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS		
EXPOSURE		

CAS No. 7783-70-2	ANTIMONY PENTAFLUORIDE Oily, colorless liquid.	
SYNONYMS	Antimony fluoride.	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or in contact with acid or acid fumes; it emits highly toxic fumes of antimony and fluorides. It will react with water or steam to produce toxic or corrosive fumes. See fluorides. TLV 2.5 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 16039-64-2	ANTIMONY POTASSIUM TARTRATE Colorless crystals; white powder.	
SYNONYMS	Tartar emetic, potassium antimony tartrate.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion.	
EXPOSURE		

CAS No. 10025-91-9	ANTIMONY TRICHLORIDE Colorless, transparent, crystalline mass.	
SYNONYMS	Antimonous chloride, antimony chloride, caustic antimony	
SAFETY MEASURES		
HAZARDS	Reacts vigorously with moisture, generating heat and hydrogen chloride gas which is highly irritating. Highly toxic. Strong irritant to eyes and skin. Can cause pulmonary edema when inhaled. See chlorides.	
EXPOSURE	Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7783-56-4	ANTIMONY TRIFLUORIDE White, odorless, solid crystals.	
SYNONYMS	Antimony fluoride.	
SAFETY MEASURES	Avoid contact with solid.	
HAZARDS	Non-flammable. Dangerous; when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of fluoride and antimony. Will react with water or steam to form toxic and corrosive fumes. See fluorides. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7790-44-5	ANTIMONY TRIIODIDE Red-to-yellow crystals.	
SYNONYMS	Antimony iodide.	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of iodides and antimony. Will react with water or steam to produce toxic and corrosive fumes. Highly toxic.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1309-64-4	ANTIMONY TRIOXIDE White, odorless, tasteless, crystalline powder	
SYNONYMS	Antimony white, antimony oxide.	
SAFETY MEASURES		
HAZARDS	Highly toxic. TLV 0.5 mg/m ³ in air (antimony compounds).	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1327-52-2	ARSENIC ACID White, translucent crystals.	
SYNONYMS	Orthoarsenic acid.	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or on contact with acids or acid fumes, emits highly toxic fumes of arsenic. Highly toxic. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No.	ARSENIC COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Used as insecticides, herbicides, silvicides, defoliants, desiccants and rodenticides. Poisoning from arsenic compounds may be acute or chronic. Acute poisoning usually results from swallowing arsenic compounds. Chronic poisoning from swallowing or inhalation. Recognized carcinogen of the skin.	
EXPOSURE		

CAS No. 1303-28-2	ARSENIC PENTOXIDE White, deliquescent, amorphous solid.	
SYNONYMS	Arsenic oxide, arsenic anhydride, arsenic acid.	
SAFETY MEASURES		
HAZARDS	Highly toxic. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7784-34-1	ARSENIC TRICHLORIDE Clear to pale yellow corrosive, oily liquid.	
SYNONYMS	Arsenic chloride, arsenious chloride, arsenous chloride, caustic arsenic chloride, fuming liquid arsenic	
SAFETY MEASURES		
HAZARDS	Noncombustible. Dangerous when heated to decomposition or on contact with acid or acid fumes; emits highly toxic fumes of hydrochloric acid and arsenic. Will react with water and steam to produce heat and toxic and corrosive fumes. Highly toxic. Strong irritant to eyes and skin. See arsenic compounds and hydrochloric acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. ~~7784-35-2~~	ARSENIC TRIFLUORIDE Oily liquid.	
SYNONYMS	Arsenic fluoride	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or on contact with acid or acid fumes; it emits highly toxic fumes of hydrofluoric acid and arsenic. Will react with water and steam to produce heat and toxic and corrosive fumes. Highly toxic. See arsenic compounds and fluorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7784-45-4	ARSENIC TRIIODIDE	
SYNONYMS	Arsenous iodide, arsenious iodide, arsenic iodide	
SAFETY MEASURES		
HAZARDS	Highly toxic. Decomposes in hot water to form toxic gas. See arsenic and iodide compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

	ASPHALT Dark brown to black thick liquid; tar odor.	
SYNONYMS	Bitumen, petroleum pitch, asphalt bitumen residual oil, Trinidad pitch, mineral pitch	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	<u>Liquid</u> Will burn skin and eyes. Flush affected areas with plenty of water.	

	ASPHALT BLENDING STOCKS Dark brown-to-black oily liquid; tar odor.	
SYNONYMS	Liquid asphalt, asphaltum, fluxing oil, road oil, petroleum tailings, dust-laying oil, petroleum residue, road binder seal-coating material, residual asphalt petroleum pitch	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink plenty of water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 513-77-9	BARIUM CARBONATE White, odorless, solid crystals or powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. Highly toxic by ingestion. Irritant to eyes, nose and throat. TLV of barium compounds 0.5 mg/m³ in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid If swallowed, will cause nausea and vomiting. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 542-62-1	BARIUM CYANIDE White crystalline powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion. See cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 100-52-7	BENZALDEHYDE Colorless to yellow liquid; bitter almond odor.	
SYNONYMS	Oil of bitter almond, benzoic aldehyde.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible when exposed to heat or flame. Moderately toxic by ingestion. Reacts as a feeble local anesthetic. Can cause convulsions in large doses.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. If in eyes, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 71-43-2	BENZENE Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Benzol, bensole.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Flammable, dangerous fire hazard. Vapor may explode if ignited in an enclosed area. Breathing high concentrations may cause acute poisoning and death. Repeated inhalation of low concentrations often results in severe or fatal anemia. Poisoning occurs most commonly through inhalation of vapor although benzene can penetrate the skin. Skin and eye irritant. Is a carcinogen. TLV 25 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 118-74-1	BENZENE HEXACHLORIDE Brown crystals, powder or solution; musty.	
SYNONYMS	Gammahexane, lindane, hexachlorocyclohexane, streunex.	
SAFETY MEASURES	Avoid contact with liquid and solid. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	When heated to decomposition it emits highly toxic fumes of phosgene. May be absorbed through the skin. Highly toxic by ingestion or skin absorption. Skin irritant. See phosgene and DDT. TLV 0.5 mg/m³ in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid or Solution POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 65-85-0	BENZOIC ACID White solid crystals or powder; faint pleasant odor	
SYNONYMS	Phenylformic acid, benzecarboxylic acid, carboxylbenzene.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Fire hazard slight when exposed to heat or flame. Vapor may explode if ignited in an enclosed area. May cause nausea and gastroenteric upset. Possible allergic reactions. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to nose and throat if inhaled. Move to fresh air. <u>Solid</u> Irritating to skin and eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 100-47-0	BENZONITRILE Transparent, colorless oil; almond-like odor.	
SYNONYMS	Phenyl cyanide.	
SAFETY MEASURES		
HAZARDS	Flammable, moderate fire risk. Highly toxic. See cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 98-38-4	BENZOYL CHLORIDE Colorless to slightly brown, watery liquid.	
SYNONYMS	Benzenecarbonyl chloride	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible liquid. Will react vigorously with oxidizing materials. Will react energetically with water or steam producing heat and toxic and corrosive fumes. DANGEROUS WHEN HEATED, GENERATES TOXIC FUMES OF PHOSGENE. DO NOT USE WATER. Vapors highly irritating to eyes and nose. Liquid corrosive to skin. See chlorides. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7787-47-5	BERYLLIUM CHLORIDE Colorless deliquescent needles.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic by inhalation and ingestion. See beryllium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No.	BERYLLIUM COMPOUNDS		
SYNONYMS			
SAFETY MEASURES			
HAZARDS	Beryllium compounds can enter the body through inhalation of dust and fumes. May act locally on the skin. May have long-term effects. Toxic by inhalation. Skin irritant.		
EXPOSURE	CALL FOR MEDICAL AID.		

CAS No. 7737-49-7	BERYLLIUM FLUORIDE Amorphous colorless mass.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See beryllium compounds and fluorides. TLV 2.5 mg/m ³ .	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13527-32-7	BERYLLIUM HYDROXIDE Amorphous powder or crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion and inhalation. See beryllium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13597-99-4	BERYLLIUM NITRATE White, yellowish crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Oxidizing material. Dangerous fire risk. When heated to decomposition or in contact with acid or acid fumes, emits highly toxic fumes of oxides of nitrogen and beryllium. Can react vigorously with reducing materials. Highly toxic by inhalation. See beryllium and nitrate compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 35089-00-0	BERYLLIUM PHOSPHATE Crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See beryllium compounds and phosphates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13510-49-1	BERYLLIUM SULFATE Crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion and inhalation. See beryllium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 80-05-7	BISPHENOL A White to brown solid flakes or powder; medicine odor.	
SYNONYMS	4,4'-isopropylidendiphenol, p,p'-Dihydroxydiphenyldimethyl methane.	
SAFETY MEASURES	Avoid contact with solid and dust.	
HAZARDS	Combustible. May be toxic by ingestion.	
EXPOSURE	<u>Dust</u> Irritating to nose and throat if inhaled. Move to fresh air. <u>Solid</u> Irritating to skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. If in eyes, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 1303-96-4	BORAX White-grayish, bluish or greenish white streak.	
SYNONYMS	Tincal, tinkal, borax decahydrate.	
SAFETY MEASURES		
HAZARDS	Noncombustible. Low toxicity. See boron compounds.	
EXPOSURE		

CAS No. 11113-50-1	BORIC ACID White crystals or powder.	
SYNONYMS	Boracic acid, o-boric acid, orthoboric acid.	
SAFETY MEASURES		
HAZARDS	Moderately toxic in large doses (5 grams for infants). See boron compounds.	
EXPOSURE		

	BORON COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Not highly toxic. Can be absorbed through wounds.	
EXPOSURE		

CAS No. 7726-95-6	BROMINE Reddish-brown watery liquid; sharp irritating odor.	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear self-contained breathing apparatus and rubber over-clothing (including gloves).	
HAZARDS	Not flammable. Strong oxidizing agent. May ignite combustibles on contact. POISONOUS GASES PRODUCED IN FIRE. Will react with water or steam to produce toxic and corrosive fumes. Can react vigorously with reducing materials. Liquid and vapor highly toxic and severe skin irritant. The action of bromine is the same as that of chlorine, being an irritant to mucous membranes of eyes and upper respiratory tract. TLV 0.1 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing, difficult breathing, or loss of consciousness. Move to fresh air. If breathing stopped, give artificial respiration (but NOT MOUTH-TO-MOUTH). If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 357-57-3	BRUCINE Monoclinic prisms.	
SYNONYMS	Demethyloxystrychnine.	
SAFETY MEASURES		
HAZARDS	- Dangerous; when heated it emits toxic fumes. An alkaloid like strychnine, but one-sixth as toxic. Highly toxic by ingestion or inhalation.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 106-97-8	BUTANE Liquified compressed gas; gasoline-like odor.	
SYNONYMS	n-butane, methylethylmethane, butyl hydride.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode in an enclosed area. Reacts with oxidizing materials. When heated, emits acrid fumes. Produces drowsiness. Simple asphyxiant.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness or difficult breathing. Not irritating to eyes, nose or throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 106-99-0	1,3-BUTADIENE	
	Liquefied compressed gas; gasoline-like odor.	
SYNONYMS	Divinyl, vinylethylene, butadiene inhibited.	
SAFETY MEASURES	Avoid contact with liquid and gas. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable gas. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Slightly toxic but may cause asphyxiation by exclusion of oxygen. Slight respiratory irritant. Direct expansion on skin may cause freeze burns. TLV 1000 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.	
CALL FOR MEDICAL AID.		

CAS No. 1001-56-5	BUTADIENE NITRILE	
SYNONYMS	Butadiene acrylonitrile rubber.	
SAFETY MEASURES		
HAZARDS	Combustible.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 110-63-4	1,4-BUTANEDIOL Colorless, odorless, thick liquid.	
SYNONYMS	Butanedio, 1,4-butylene glycol, 1,4-dihydroxybutane, tetramethylene glycol.	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials. Moderately toxic by ingestion.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to the skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.	

CAS No. 29733-86-6	1,4-BUTENEDIOL	
SYNONYMS	2-butene-1,3-diol, 1,4-dihydroxy-2 butene	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Can react with oxidizing materials. Primary skin irritant.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 78-92-2	SEC-BUTYL ALCOHOL Colorless, watery liquid; alcohol odor.	
SYNONYMS	2-Butanol, 2-Hydroxybutane, Methyl ethyl carbinol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react with oxidizing materials.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache, dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 75-65-0	TERT-BUTYL ALCOHOL Colorless, oily liquid; sharp alcohol odor.	
SYNONYMS	2-methyl-2-propanol, trimethyl carbinol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode in an enclosed area. Can react with oxidizing materials. TLV 100 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, difficult breathing. Move to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 123-86-4	N-BUTYL ACETATE Colorless watery liquid; pleasant fruity odor.	
SYNONYMS	Acetic acid n-butyl ester, Butyl acetate, butyl ethanoate	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react with oxidizing materials. High concentrations are irritating to eyes and respiratory tract. High concentrations cause narcosis. TLV 220 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, dizziness, headache or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 105-46-4	SEC-BUTYL ACETATE Colorless watery liquid; pleasant fruity odor.	
SYNONYMS	Acetic acid sec-butyl ester, 2-butanol acetate.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react with oxidizing materials. Moderate explosion hazard when exposed to flame. Mild irritant. Acute ingestive hazard.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 141-32-2	N-BUTYL ACRYLATE Colorless, watery liquid; sharp fragrant odor.	
SYNONYMS	Butyl acrylate, n-Butyl-2-propenoate, acrylic acid n-butyl ester.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Containers may explode in fire. Can react with oxidizing materials.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 75-91-2	TERT-BUTYL HYDROPEROXIDE Odorless, colorless, watery liquid.	
SYNONYMS	Cadon TBH	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable liquid. Vapor may explode if ignited in an enclosed area. Spontaneous chemical reaction and/or explosion may occur if mixed with readily oxidizable, organic or flammable materials. Flashback along vapor trail may occur. Can react with reducing materials. Moderately toxic. Skin sensitizer.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 25167-67-3	BUTYLENE Liquefied compressed gas; gasoline-like odor.	
SYNONYMS	Transbutane-2, isobutane, butene-1, cis-butene-2.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Highly flammable. Vapor may explode if ignited in enclosed area. Can react with oxidizing materials. Caution - an anesthetic or asphyxiant.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness and difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 110-65-6	1,4-BUTYNE-1,4-DIOL White-yellow crystals; brownish watery solution.	
SYNONYMS	2-Butyne-1,4-diol, 1,4-dihydroxy-2-butyne.	
SAFETY MEASURES	Avoid contact with liquid or solid.	
HAZARDS	Combustible. Dangerous when heated to decomposition; it emits acrid fumes and may explode. May explode on contamination with mercury salts, strong acids and alkali earth hydroxides and halides at high temperatures. Highly toxic. Strong irritant.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eye lids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 123-72-8	BUTYRALDEHYDE Colorless, watery liquid; pungent odor.	
SYNONYMS	Butaldehyde, butyric aldehyde, butanal, butylaldehyde.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus and protective clothing. Stay upwind.	
HAZARDS	Extremely flammable liquid. Flashback along vapor trail may occur. Vapors may explode if ignited in an enclosed area. Moderately toxic. May produce skin and eye burns. Slightly toxic by inhalation.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting headache, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin. Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 107-92-6	BUTYRIC ACID Liquid.	
SYNONYMS	Butanoic acid, ethylacetic acid, propylformic acid.	
SAFETY MEASURES	Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. Vapor forms explosive mixture with air. Can react with oxidizing materials. Toxic. Eye, skin and respiratory tract irritant.	
EXPOSURE	 CALL FOR MEDICAL AID.	

CAS No. 543-90-8	CADMIUM ACETATE Colorless crystals; odor of acetic acid.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See cadmium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7789-42-6	CADMIUM BROMIDE Yellow crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See cadmium compounds and bromide compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10108-64-2	CADMIUM CHLORIDE Odorless, hexagonal, colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. Dangerous when in contact with organic materials. Moderate fire hazard by chemical reaction with reducing agents. Powerful oxidizing agent. Explosion hazard moderate when shocked or exposed to heat. When heated to decomposition it emits highly toxic fumes of cadmium, chlorine and chlorides. Highly toxic. See cadmium and chloride compounds. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	CADMIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Oral toxicity of cadmium compounds is high. The inhalation of fumes or dusts of cadmium primarily affects the respiratory tract. Brief exposure may result in pulmonary edema and death. Are suspected carcinogens.	
EXPOSURE		

CAS No. 14486-19-2	CADMIUM FLUOBORATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See cadmium compounds and fluorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10325-94-7	CADMIUM NITRATE White prismatic needles.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Dangerous fire and explosion hazard. Highly toxic.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10124-36-4	CADMIUM SULFATE Rhombic white crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See cadmium compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7778-44-1	CALCIUM ARSENATE White, amorphous powder.	
SYNONYMS	Tricalcium-o-arsenate, calcium-o-arsenate.	
SAFETY MEASURES		
HAZARDS	Decomposes on heating to arsenic. Recognized carcinogen. Highly toxic by ingestion. See arsenic compounds. TLV 1 mg/m ³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 52740-16-6	CALCIUM ARSENITE White, granular powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 75-20-7	CALCIUM CARBIDE Gray-to-bluish black granules; garlic odor.	
SYNONYMS	Carbide, acetylenogen.	
SAFETY MEASURES	Avoid contact with solid and gas.	
HAZARDS	Not flammable in dry state. FLAMMABLE, EXPLOSIVE ACETYLENE GAS PRODUCED ON CONTACT WITH WATER. When decomposed in water it forms acetylene and calcium hydroxide. DO NOT USE WATER OR FOAM ON ADJACENT FIRES. Irritant to eyes and can cause skin burns. See acetylene and calcium hydroxide.	
EXPOSURE	Solid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 13765-19-0	CALCIUM CHROMATE Yellow prisms.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Carcinogen. Highly toxic. Strong irritant to skin. See chromium compounds. TLV 0.1 mg/m ³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 592-01-8	CALCIUM CYANIDE White powder or crystals.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with solid. Wear full protective clothing, self-contained breathing apparatus.	
HAZARDS	Non-flammable. Very poisonous and flammable hydrogen cyanide gas is released rapidly on contact with acid. On contact with water, slowly releases hydrogen cyanide gas. Highly toxic. Do not handle with bare hands. See cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1305-62-0	CALCIUM HYDROXIDE Odorless white granules.	
SYNONYMS	Hydrated lime, slaked lime, calcium hydrate.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles, self-contained breathing apparatus and rubber overclothing, including gloves.	
HAZARDS	Non-flammable. Has caustic reaction and is irritating to skin and respiratory system. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to nose and throat if inhaled. Move to fresh air. <u>Solid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7778-54-3	CALCIUM HYPOCHLORITE White granules; household bleaching powder odor.	
SYNONYMS	Bleaching powder, calcium oxychloride, sentry HTH, HTH drychlorine, neutral anhydrous calcium hypochlorite.	
SAFETY MEASURES	Avoid contact with solid or dust. Wear goggles, self-contained breathing apparatus, and chemical protective suit.	
HAZARDS	Non-flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED. On contact with acid or moisture, evolves chlorine freely at ordinary temperatures. Hazardous on contact with combustible, organic or other easily oxidizable materials. Highly toxic by ingestion and inhalation. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Solid</u> Irritating to skin and eyes. If swallowed will cause nausea, vomiting, or loss of consciousness. Remove contaminated clothing and shoes. Flush affected area with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS, limit first aid to keeping victim warm. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 1305-78-8	CALCIUM OXIDE Odorless, white granules.	
SYNONYMS	Unslaked lime, quick-lime, burnt lime, Calx.	
SAFETY MEASURES	Avoid contact with solid. Wear rubber overclothing, including gloves.	
HAZARDS	Not combustible. May cause fire on contact with water and combustibles. Caustic irritant to eyes, and respiratory tract. TLV 5 mg/m³ in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to nose and throat. Move to fresh air. <u>Solid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 79-92-5	CAMPHERE Cubic crystals	
SYNONYMS	3,3-Dimethyl-2-methylene norcamphore.	
SAFETY MEASURES		
HAZARDS	Yields flammable vapors when heated. Reacts with oxidizing materials.	
EXPOSURE	CALL FOR MEDICAL AID.	

	CAMPBOR OIL Colorless, brown or blue oily liquid; camphor odor.	
SYNONYMS	Liquid camphor.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Can react with oxidizing materials. Moderately explosive in form of vapor when exposed to heat or flame. Moderately toxic. A local irritant. TLV 5 mg/m³ in air.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 133-06-2	CAPTAN	
SYNONYMS	n-trichloromethylthiotetrahydrophthalimide	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits highly toxic fumes of chlorides. Toxic and irritant. See chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 75-15-0	CARBON BISULFIDE Colorless-to-yellow watery liquid; rotten egg odor.	
SYNONYMS	Carbon Disulfide.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Flammable liquid that gives off flammable vapors even at low temperatures which will form explosive mixtures in air over a wide range. Can react vigorously with oxidizing material. Anesthetic action is much more powerful than chloroform. Toxic by oral intake or prolonged contact with skin. Acts on central nervous system as narcotic or anesthetic in acute poisoning. Death is caused by respiratory failure. TLV 2.0 ppm in air (by skin absorption). HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 56-23-5	CARBON TETRACHLORIDE Colorless, watery liquid; sweet odor.	
SYNONYMS	Carbon Tet, tetrachloromethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Nonflammable liquid. POISONOUS AND IRRITATING GASES OF PHOSGENE ARE PRODUCED WHEN HEATED. Carbon tetrachloride has a narcotic action resembling that of chloroform but not as strong. Eye and skin irritant. Highly toxic by ingestion, inhalation, and skin absorption. See phosgene. TLV 10 ppm in air.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 120-80-9	CATECHOL Colorless crystals.	
SYNONYMS	Pyrocatechol, 1,2-benzendiol, pyrocatechin, o-dihydroxybenzene	
SAFETY MEASURES		
HAZARDS	Fire hazard slight when exposed to heat. Dangerous - when heated it emits highly toxic fumes. Can react with oxidizing materials. Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant. Can cause convulsions and injury to blood. See also phenol.	
EXPOSURE		

CAS No. 12789-05-6	CHLORDANE Colorless-to-amber; odorless, viscous liquid.	
SYNONYMS	Chloradanoctachlorotetrahydromethano indane, "Octa-klor", "1068", "Velsicol 1068", "Dowklor", "Ortho-Klor" and other trade names.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition emits highly toxic fumes of chlorides. Extremely poisonous by ingestion and skin absorption. On contact with skin can cause death. Ingestion of 2-4 grams can cause death. TLV 0.5 mg/m³ of air.	
EXPOSURE		

CAS No. 7782-50-5	CHLORINE	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Noncombustible in air but most combustible materials will burn in chlorine as they do in oxygen. Flammable gases and vapors will form explosive mixtures with chlorine. Reacts explosively or forms explosive compounds with many common chemicals such as: turpentine, ethers, ammonia gas, hydrogen, hydrocarbons, powdered metals. POISONOUS GASES ARE PRODUCED IN FIRE. Extremely strong oxidizing agent. It combines with moisture to liberate nascent oxygen and forms hydrochloric acid. Toxic gas. Liquid chlorine will cause serious skin burns. Extremely irritating to the eyes and respiratory tract. TLV 0.1 ppm 1000 ppm fatal HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor Poisonous if inhaled. Will burn eyes. If breathing has stopped, give artificial respiration (but NOT MOUTH-TO-MOUTH). If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. Liquid Will burn skin and eyes. Will cause frostbite. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 108-90-7	CHLOROBENZENE Clear colorless liquid.	
SYNONYMS	Phenyl chloride, monochlorobenzene, chlorobenzol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Flammable liquid. May explode if ignited in an enclosed area. Flashback along vapor trail may occur. Reacts vigorously with oxidizing materials. POISONOUS GASES ARE PRODUCED IN FIRE. Explodes when exposed to heat or flame. Toxic by inhalation, skin contact, or ingestion. An eye irritant. Strong narcotic. 3700 ppm fatal. TLV 75 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> If inhaled will cause coughing or dizziness. Not irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 67-66-3	CHLOROFORM Colorless, watery liquid; sweet odor.	
SYNONYMS	Trichloromethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Non-flammable. POISONOUS AND IRRITATING GASES OF PHOSGENE ARE PRODUCED WHEN HEATED. Will cause narcosis and heart damage. TLV 50 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache, nausea, dizziness, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 96-24-2	CHLOROHYDRINS	
SYNONYMS	Crude epichlorohydrin, 1-chloropropane-2,3-diol, glyceryl-alpha-chlorohydrin.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Combustible. Containers may explode in fire. Poisonous gases are produced in fire. Toxic if inhaled or ingested.	
EXPOSURE	<u>Vapor</u> Poisonous if inhaled. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Poisonous if swallowed. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 7790-94-5	CHLOROSULFONIC ACID Colorless to light yellow liquid; choking odor.	
SYNONYMS	Sulfuric chlorohydrin, chlorsulfonic acid.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Non-flammable. Dangerously reactive in the presence of moisture or water. May cause ignition by contact with combustible materials. Corrosive to most metals, with evolution of hydrogen gas which is flammable or explosive. Will react with water and organic materials with evolution of heat. Explosive reaction with water, liberating hydrochloric and sulfuric acids. Produces severe acid burns. Highly toxic. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 11115-74-5	CHROMIC ACID Odorless, dark red flakes or powder.	
SYNONYMS	Chromic anhydride, chromium trioxide, chromic oxide.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Non-flammable. Containers may explode when heated in a fire. Powerful oxidizing material. May react with organic material rapidly enough to generate sufficient heat for ignition. Contact with powerful reducing agents can cause violent reactions. Will ignite on contact with acetic acid and alcohols. Solid or concentrated solutions destroy tissue. Contact with eyes may result in loss of sight. TLV 0.1 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 1066-30-4	CHROMIC ACETATE Gray-green powder or bluish-green pasty mass.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxic by ingestion. See chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10101-53-8	CHROMIC SULFATE Violet or red powder.	
SYNONYMS	Chromium sulfate.	
SAFETY MEASURES		
HAZARDS	Probably toxic by ingestion. Carcinogenic. See chromium compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

	CHROMIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Chromic acid and its salts have a corrosive action on the skin and mucous membranes. Chromate salts are recognized carcinogens. Hexavalent compounds are said to be more toxic than the trivalent.	
EXPOSURE		

CAS No. 13734-50-4	CHROMOUS CARBONATE	
SYNONYMS	Chromium carbonate.	
SAFETY MEASURES	Avoid contact with dust and solid.	
HAZARDS	Toxic by ingestion. Irritant to skin and tissues. See chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10049-05-5	CHROMOUS CHLORIDE	
SYNONYMS	Chromium chloride.	
SAFETY MEASURES		
HAZARDS	Carcinogenic. See chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 314-90-4	CHROMOUS OXALATE Yellow crystalline powder.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with skin in both dust and solid form.	
HAZARDS	Toxic by ingestion, irritant to skin and tissue. Carcinogenic. See chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14977-61-8	CHROMYL CHLORIDE Dark red liquid; musty burning odor.	
SYNONYMS	Chromium oxychloride, chlorochromic anhydride.	
SAFETY MEASURES		
HAZARDS	Hydrolizes to form chromic and hydrochloric acids. A strong irritant. Carcinogenic. See chlorides and chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No.	COBALT COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Experimental evidence shows the toxicity of cobalt by ingestion is low. May cause skin irritation. They are suspected carcinogens.	
EXPOSURE		

CAS No. 71- ~~50~~ -7	COBALTOUS ACETATE Red-violet crystals.	
SYNONYMS	Cobalt acetate.	
SAFETY MEASURES		
HAZARDS	Toxicity low. See cobalt compounds.	
EXPOSURE		

CAS No. 7739-13-7	COBALTOUS BROMIDE Green crystals.	
SYNONYMS	Cobalt bromide.	
SAFETY MEASURES		
HAZARDS	May be toxic. See cobalt compounds and bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 866-81-9	COBALTOUS CITRATE Rose-red crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See cobalt compounds.	
EXPOSURE		

CAS no. 10026-17-2	COBALTOUS FLUORIDE Rose-red crystals.	
SYNONYMS	Cobalt fluoride.	
SAFETY MEASURES		
HAZARDS	Highly toxic and irritant. See cobalt compounds and fluorides. TLV 2.5 mg/m of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 541-13-3	COBALTOUS FORMATE Red crystals.	
SYNONYMS	Cobalt formate.	
SAFETY MEASURES		
HAZARDS	See cobalt and formic acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 15238-00-3	COBALTOUS IODIDE Hexagonal black crystals.	
SYNONYMS	Cobalt iodide.	
SAFETY MEASURES		
HAZARDS	Moderately toxic. See cobalt compounds and iodides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10141-05-6	COBALTOUS NITRATE Red crystals.	
SYNONYMS	Cobalt nitrate.	
SAFETY MEASURES		
HAZARDS	On decomposition releases oxides of nitrogen. Moderately toxic. See oxides of nitrogen. See cobalt compounds and nitrates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 3267-76-3	COBALTOUS SUCCINATE	
SYNONYMS	Cobalt succinate.	
SAFETY MEASURES		
HAZARDS	See cobalt compounds.	
EXPOSURE		

CAS No. 14017-41-5	COBALTOUS SULFAMATE	
SYNONYMS	Cobalt sulfamate.	
SAFETY MEASURES		
HAZARDS	See cobalt compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10124-43-3	COBALTOUS SULFATE Red, water-soluble crystals.	
SYNONYMS	Cobalt sulfate.	
SAFETY MEASURES		
HAZARDS	See cobalt compounds and sulfates.	
EXPOSURE		

	COPPER COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Copper chloride and sulfate have been reported as causing irritation of the skin and conjunctiva. Cuprous oxide is irritating to the eyes and upper respiratory tract. The ingestion of a large quantity of copper sulfate has caused vomiting, gastric pain, dizziness, exhaustion, anemia, cramps, convulsions, coma and death. Deaths have been reported after ingestion of as little as 27 g of the salts, while other victims have recovered after doses up to 120 g.	
EXPOSURE		

CAS No. 56-72-4	COUMAPHOS	
SYNONYMS	Co-ra1	
SAFETY MEASURES		
HAZARDS	Highly toxic insecticide.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1319-77-3	CRESOLS Colorless or yellow liquid or crystals; tarry odor.	
SYNONYMS	2-methoxy-4-methyl phenol, 4-methyl guaiacol, 2-methoxy-p-cresol, cresylic acids, hydroxytoluenes, methylphenols, oxytoluenes.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable. Vapors form explosive mixtures with air. POISONOUS GASES MAY BE PRODUCED IN FIRE. Corrosive to body tissue. Toxic by inhalation, ingestion and skin absorption. Production of severe burns and dermatitis. TLV 5 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 4170-30-3	CROTONALDEHYDE	
SYNONYMS	2-butenal, crotonic aldehyde, 3-methylacrolein.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable liquid. Vapor may explode if ignited in an enclosed area. Extreme eye, respiratory tract and skin irritant. Very dangerous to eyes; can cause corneal damage. Regard as an acute irritant on very short exposure to small quantities. TLV 2 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing, nausea, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 69-82-3	CUMENE Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Cumol, isopropylbenzene, 2-phenylpropane.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable. Can react with oxidizing agents. Highly toxic by ingestion, inhalation, and skin absorption. Narcotic in high concentrations. TLV 50 ppm.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.	

CAS No. 142-71-2	CUPRIC ACETATE Greenish-blue fine powder or crystals.	
SYNONYMS	Copper acetate, verdigris.	
SAFETY MEASURES		
HAZARDS	Moderately toxic.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 12002-03-8	CUPRIC ACETOARSENITE Emerald green powder.	
SYNONYMS	Copper acetoarsenite, copper acetate arsenite, Paris green, emerald green, imperial, king's green, moss green, Vienna green.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion. See copper compounds and arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13395-16-9	CUPRIC ACETYLACETONATE	
SYNONYMS	Scheel's green, copper-2,4-pentadione.	
SAFETY MEASURES		
HAZARDS	See copper compounds.	
EXPOSURE		

CAS No. 7739-45-9	CUPRIC BROMIDE Black, deliquescent crystals.	
SYNONYMS	Copper bromide.	
SAFETY MEASURES		
HAZARDS	See copper compounds, bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7447-39-4	CUPRIC CHLORIDE Yellowish-brown powder.	
SYNONYMS	Copper chloride.	
SAFETY MEASURES		
HAZARDS	Moderately toxic. See copper compounds and chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 514-19-4	CUPRIC FORMATE Blue crystals.	
SYNONYMS	Copper formate.	
SAFETY MEASURES		
HAZARDS	See copper compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 527-09-3	CUPRIC GLUCONATE	
SYNONYMS	Copper gluconate.	
SAFETY MEASURES		
HAZARDS	Low toxicity.	
EXPOSURE		

CAS No. 13479-54-4	CUPRIC GLYCINATE	
SYNONYMS	Copper glycinate, cupric aminoacetate.	
SAFETY MEASURES		
HAZARDS	See copper compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 16039-52-4	CUPRIC LACTATE Monoclinic dark blue crystals.	
SYNONYMS	Copper lactate.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion. See copper compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 814-91-5	CUPRIC OXALATE Solid; light bluish-green powder.	
SYNONYMS	Copper oxalate.	
SAFETY MEASURES		
HAZARDS	See copper compounds and oxalates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 52503-64-7	CUPRIC SUBACETATE Solid.	
SYNONYMS	Copper acetate basic, copper subacetate, verdigris.	
SAFETY MEASURES		
HAZARDS	Moderately toxic. See copper compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7758-98-7	CUPRIC SULFATE Odorless, white-to-blue granules or crystals.	
SYNONYMS	Copper sulfate, blue vitriol, sulfate of copper, copper sulfate pentahydrate, blue stone, roman vitriol.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Hydrolyzes in water to form sulfuric acid. Highly toxic by ingestion. See copper compounds and sulfates. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid If swallowed, will cause nausea, vomiting or loss of consciousness. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	CUPRIC SULFATE, AMMONIATED Dark blue crystals.	
SYNONYMS	Ammoniated copper sulfate, ammoniated amino-cupric sulfate, copper aminosulfate.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion. See copper compounds, ammonia and sulfate.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 315-82-7	CUPRIC TARTRATE	
SYNONYMS	Copper tartrate.	
SAFETY MEASURES		
HAZARDS	See copper compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7787-70-4	CUPROUS BROMIDE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See copper compounds and bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7631-65-4	CUPROUS IODIDE Cubic, white crystals.	
SYNONYMS	Marshite.	
SAFETY MEASURES		
HAZARDS	Moderately toxic in greater than trace amounts. See copper compounds and iodides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No.	CYANIDES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Cyanides inhibit tissue oxidation and cause death through asphyxia. Cyanogen is probably as toxic as hydrocyanic acid. The nitriles are somewhat less toxic. The non-volatile cyanide salts appear to be relatively nontoxic systemically, as long as they are not ingested and the formation of hydrocyanic acid is prevented. Many cyanides evolve flammable and highly toxic hydrocyanic acid. Carbon dioxide from the air is sufficiently acidic to liberate hydrocyanic acid from cyanide solutions. On contact with acid, acid fumes, water or steam, they will produce toxic and flammable vapors of hydrogen cyanide.	
EXPOSURE		

CAS No. 506-68-3	CYANOGEN BROMIDE Colorless crystals; penetrating odor.	
SYNONYMS	Bromine cyanide.	
SAFETY MEASURES	AVOID CONTACT WITH SOLID AND DUST. Wear chemical protective suit with self-contained breathing apparatus.	
HAZARDS	Non-flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED. Highly toxic. Strong irritant to skin and eyes. See cyanides and bromides. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> POISONOUS IF INHALED OR IF SKIN EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solids</u> POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 506-77-4	CYANOGEN CHLORIDE Colorless liquid or compressed gas; pungent odor.	
SYNONYMS	Chlorine cyanide.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Non-flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED IN FIRE. Highly dangerous when in contact with water or steam it will react to produce highly toxic and corrosive fumes. Highly toxic by ingestion, inhalation. Strong irritant to skin and eyes. Vapors highly irritant. See cyanides and hydrochloric acid. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 29386-66-1	CYANOPYRIDINE Gray crystals.	
SYNONYMS	3-cyanopyridine, 4-cyanopyridine.	
SAFETY MEASURES		
HAZARDS	Slightly flammable when exposed to heat or flame. Dangerous when heated to decomposition. Emits toxic fumes on contact with acid. Acid fumes, water or steam will react to produce toxic and flammable cyanide vapors. Can react with oxidizing materials. Probably highly toxic. See cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 108-94-1	CYCLOHEXANONE Colorless-to-yellow oily liquid; peppermint odor.	
SYNONYMS	Cyclohexyl ketone.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. Can react with oxidizing materials. Slightly explosive when exposed to flame. Irritant to eyes, skin and mucous membranes. Narcotic. Mildly toxic if inhaled or ingested. TLV 50 ppm.	
EXPOSURE	<u>Liquid</u> Will burn eyes and skin. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 108-91-8	CYCLOHEXYLAMINE Colorless liquid; strong fishy odor.	
SYNONYMS	Aminocyclohexane, hexahydroaniline.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Extremely flammable liquid. Vapor forms explosive mixture with air. Dangerous when heated to decomposition; emits highly toxic fumes. It can react vigorously with oxidizing materials. Highly toxic by ingestion, inhalation and skin absorption. Severe eye and respiratory irritant. Vapors cause nausea. Burns skin on contact. TLV 22 ppm.	
EXPOSURE	<u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.	

CAS No. 94-75-7	2,4-D ACID White powder.	
SYNONYMS	2,4-Dichlorophenoxyacetic acid.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Dangerous when heated to decomposition; it emits highly toxic fumes of chloride. Toxic and irritant. See chlorides. TLV 10 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No.	2,4-D ESTERS	
SYNONYMS	2,4-dichlorophenoxyacetic acid, esters.	
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition, emits highly toxic vapors. High inhalation hazard.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 75-99-0	DALAPON	
SYNONYMS	"Dowpon M", "Gramevin", "Radapon", Unipon 2, 2-DPA 2,2-dichloropropionic acid, 2,2-dichloropropanoic acid.	
SAFETY MEASURES	Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Dangerous when heated to decomposition; it emits highly toxic fumes of chlorides. Moderately toxic. Strong irritant to eyes and skin. See chlorides.	
EXPOSURE	Irritates skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 50-29-3	DDT Odorless, colorless, solid.	
SYNONYMS	Dichloro-diphenyl-trichloroethane, chlorophenothane, dicaphane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane	
SAFETY MEASURES	Avoid contact with solid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE. Absorbed by skin if in solution. Carcinogenic potential. TLV 1 mg/m ³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solids Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, headache and loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 112-31-2	DECALDEHYDE Colorless to light yellow liquid; pleasant odor.	
SYNONYMS	Decanal, capric aldehyde, capraldehyde, aldehyde C-10.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable. Narcotic in high concentrations. Probable low toxicity. Irritant.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 872-05-9	1-DECENE Colorless watery liquid; pleasant odor.	
SYNONYMS	n-decylene, alpha-decene.	
SAFETY MEASURES	Avoid contact with liquid. Wear full-protective clothing and self-contained breathing apparatus.	
HAZARDS	Combustible. Can react with oxidizing materials. Believed to be narcotic and moderately toxic through ingestion and inhalation. May be irritating.	
EXPOSURE	Liquid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 112-30-1	N-DECYL ALCOHOL Colorless to light yellow liquid; alcohol odor.	
SYNONYMS	1-decanol, nonyl carbinol, capric alcohol.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Can react with oxidizing materials.	
EXPOSURE	Liquid Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 123-42-2	DIACETONE ALCOHOL Colorless-yellow watery liquid; pleasant odor.	
SYNONYMS	4-hydroxy-4-methylpentanone-2, diacetone.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Flammable. Can react with oxidizing materials. Moderately toxic. Irritating to eyes and mucous membranes. Narcotic in high concentrations. TLV 50 ppm in air.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 333-41-5	DIAZINON Liquid; faint ester-like odor.	
SYNONYMS	"Dipofene", "Diazitol", "Basudin", Spectracide", "G-24", "480"	
SAFETY MEASURES		
HAZARDS	Non-flammable. Emits highly toxic fumes when heated to decomposition. Highly toxic by ingestion, inhalation and skin absorption. Fatal dose 360 mg/kg. See parathion. TLV 0.1 mg/m³ by skin absorption.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 94-36-0	DIBENZOYL PEROXIDE Odorless, white solid powder or granules.	
SYNONYMS	Benzoyl peroxide, benzoyl superoxide, lucidol, oxylite, BPO, BP	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. MAY EXPLODE IF SUBJECTED TO HEAT, SHOCK OR FRICTION. May cause fire and explode on contact with combustibles. Powerful oxidizer. Mixed with large surplus of water it is relatively safe. It is most dangerous when it contains low percentages of water. TLV 5 mg/m³	
EXPOSURE	<u>Solid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 34-74-2	DIBUTYL PHTHALATE Odorless, colorless, oily liquid.	
SYNONYMS	Dibutylisophthalate, dibutyl-1,2-benzenedicarboxylate, n-butyl phthalate.	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials. Moderate ingestive poison. TLV 5 mg/m ³ in air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid No appreciable harm.	

CAS No. 1913-00-9	DICAMBA	
SYNONYMS	"Banrel D", 3,6-dichloro-o-anisic acid, 2-methoxy-3,6-dichloro benzoic acid.	
SAFETY MEASURES		
HAZARDS	Probably toxic. See chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1194-65-6	DICHLOBENIL		
SYNONYMS	2,6-dichlorobenzonitrile		
SAFETY MEASURES			
HAZARDS	Very toxic by ingestion and inhalation. See chlorides and nitriles.		
EXPOSURE	CALL FOR MEDICAL AID.		

CAS No. 117-30-6	DICHLONE Golden-yellow crystals.	
SYNONYMS	Generic name for 2,3-dichloro-1,4-naphthoquinone, "Phygon"	
SAFETY MEASURES		
HAZARDS	When heated to decomposition it emits highly toxic fumes of chlorides. Toxic by ingestion and inhalation. Irritating to skin, eyes, and mucous membranes. Large doses can cause central nervous system depression.	
EXPOSURE		

CAS No. 95-50-1	o-DICHLOROBENZENE Colorless liquid; pleasant odor.	
SYNONYMS	1,2-dichlorobenzene.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Can react with oxidizing materials. Highly irritant. Moderately toxic by inhalation and ingestion. The ortho form is probably more toxic than the para or meta forms.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS no. 106-46-7	p-DICHLOROBENZENE White to clear solid crystals; mothball odor.	
SYNONYMS	Paradichlorobenzene, "Dichlorocide", "Paradi"	
SAFETY MEASURES	Avoid contact with solid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Moderately toxic. Irritating to eyes. TLV 75 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 75-71-8	DICHLORODIFLUOROMETHANE Colorless compressed gas; faint odor.	
SYNONYMS	"Freon-12", "Arcton 6", "Eskimon 12", "F-12", "Genetron 12", "Isotron 12"	
SAFETY MEASURES		
HAZARDS	Non-flammable. POISONOUS GASES OF PHOSGENE AND FLUORIDES ARE PRODUCED IN FIRE OR ON CONTACT WITH METALS. Narcotic in high concentrations. TLV 1000 ppm in air; 4950 mg/m³ of air.	
EXPOSURE	Vapor Not irritating to eyes, nose or throat. If inhaled, will cause dizziness, difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. CALL FOR MEDICAL AID.	

CAS no. 75-09-2	DICHLOROMETHANE Colorless, watery liquid; sweet, pleasant odor.	
SYNONYMS	Methane chloride, methylene dichloride.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Non-flammable. Vapors form explosive mixtures in air. POISONOUS GASES OF PHOSGENE ARE PRODUCED WHEN HEATED. Can be absorbed by the skin. Very dangerous to eyes. Induces narcosis. Narcosis occurs above 500 ppm. TLV 500 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea and dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 120-83-2	2,4-DICHLOROPHENOL Colorless, solid crystals; medicinal odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE. Dangerous when in contact with acid or acid fumes, it emits highly toxic fumes of chlorides. Can react vigorously with oxidizing materials. Toxic by all routes.	
EXPOSURE	Solid or Dust Will burn skin and eyes. Poisonous if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS no. 26638-19-7	DICHLOROPROPANE Colorless watery liquid; sweet odor.	
SYNONYMS	Acetone dichloride, propylene dichloride, telone.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear rubber overclothing (including gloves) and self-contained breathing apparatus if in fire. Stay upwind.	
HAZARDS	Extremely flammable. POISONOUS GASES OF PHOSGENE ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Highly toxic by ingestion, inhalation and skin absorption. One of the more toxic hydrocarbons. TLV 75 ppm in air; 346 mg/m ³ of air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 26952-23-3	DICHLOROPROPENE Colorless liquid; sweet odor.	
SYNONYMS	1,3-dichloropropylene, Telone.	
SAFETY MEASURES	Avoid contact with liquid or vapor. WEAR GOGGLES AND SELF-CONTAINED BREATHING APPARATUS. Wear rubber overclothing (including gloves).	
HAZARDS	Flammable. POISONOUS GASES ARE PRODUCED IN FIRE. Can react vigorously with oxidizing materials. Highly toxic by ingestion and inhalation. Strong irritant.	
EXPOSURE	Vapor Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 62-73-7	DICHLORVOS	
SYNONYMS	Generic name for 2,2-dichlorovinyl dimethyl phosphate, DDVP.	
SAFETY MEASURES		
HAZARDS	Highly toxic. See chlorides and phosphorus compounds. TLV 0.1 ppm in air by skin absorption.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 77-73-6	DICYCLOPENTADIENE Colorless liquid or solid crystals; camphor odor.	
SYNONYMS	Bicyclopentadiene	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Combustible. Very toxic.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 60-57-1	DIELDRIN Crystalline.	
SYNONYMS	Compound 497, Octalox, HEDO, and other trade names.	
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition it emits highly toxic fumes of chlorides. Is readily absorbed through the skin. Potential carcinogen. See aldrin. TLV 0.25 mg/m³.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 111-42-2	DIETHANOLAMINE Oily liquid; white crystals; dead fish odor.	
SYNONYMS	di(2-hydroxyethyl)amine, DEA, 2,2-iminodiethanol, bis(2-hydroxyethyl)amine.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Flammable. Can react with oxidizing materials. Slightly irritating to skin, eyes and lungs. Toxic by ingestion or inhalation. See amines. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 105-58-8	DIETHYL CARBONATE	
SYNONYMS	Ethyl carbonate, carbonic ether, carbonic acid diethyl ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Vapor may explode if ignited in enclosed area. Flashback along vapor trail may occur. Can react with oxidizing materials. Moderately toxic by ingestion and inhalation. Strong irritant.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache, dizziness, nausea, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 109-89-7	DIETHYLAMINE Colorless, watery liquid; fishy, ammonia odor.	
SYNONYMS	DEN	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Extremely flammable. Flashback along vapor trail may occur. Irritating vapors are produced when heated. Vapor may explode if ignited in an enclosed area. A severe respiratory irritant and corrosive to the skin and eyes. TLV 25 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 111-96-6	DIETHYLENE GLYCOL DIMETHYL ETHER Colorless, watery liquid; pleasant odor.	
SYNONYMS	Poly solv, bis(2-methoxyethyl)-ether, Diglyme.	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials. See glycols.	
EXPOSURE	<u>Liquid</u> If swallowed, will cause nausea, vomiting, or loss of consciousness. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 111-77-3	DIETHYLENE GLYCOL MONOMETHYL ETHER Colorless liquid; pleasant odor. 
SYNONYMS	2-beta-methyl "carbitol", methoxyethoxy ethanol, Poly solv DM, Dowanol DM, 2-(2-methoxyethoxy)-ethanol, methyl carbitol.
SAFETY MEASURES	Avoid contact with liquid. Wear full-protective clothing and canister mask.
HAZARDS	Moderately flammable. Can react with oxidizing materials. Highly toxic by ingestion. Moderately toxic by inhalation. Moderately irritant. See glycol compounds.
EXPOSURE	Liquid Irritating to eyes. Harmful if swallowed. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.

CAS No. 111-40-0	DIETHYLENE TRIAMINE Colorless-to-yellow liquid; ammonia odor.	
SYNONYMS	2,2'-diaminodiethylamine, Bis(2-aminoethyl)amine	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Do not use copper or copper alloy equipment.	
HAZARDS	Flammable. Emits highly toxic fumes when heated to decomposition. High concentration of vapors can cause irritation of respiratory tract, nausea and vomiting. Highly toxic by ingestion and inhalation. Strong irritant to eyes and skin. TLV 1 ppm in air by skin absorption.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 25167-70-8	DIISOBUTYLENE Colorless liquid; gasoline-like odor.	
SYNONYMS	2,4,4-Trimethyl-1-pentene.	
SAFETY MEASURES	Stay upwind.	
HAZARDS	Extremely flammable. Vapor may explode if ignited in an enclosed area. Flashback along vapor trail may occur. Dangerous, can react vigorously with oxidizing materials. When heated to decomposition, emits highly toxic vapors. Irritant and narcotic in high concentrations. Mildly toxic by inhalation.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 110-97-4	DIISOPROPANOLAMINE Liquid; white-yellow crystals; ammonia odor.	
SYNONYMS	DIPA, 1,1-iminodi-2-propanol, 2,2'-dihydroxydipropylamine.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable liquid. Vapor forms explosive material with air. When heated to decomposition, emits toxic vapors. Can react with oxidizing materials. Moderately toxic. Irritant.	
EXPOSURE	Liquid or Solid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 124-40-3	DIMETHYLAMINE Liquefied compressed gas; dead fish or ammonia odor	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. When heated to decomposition, emits toxic fumes. Moderately toxic by ingestion and inhalation. Eye, skin, and respiratory irritant. Direct and prolonged contact can cause burns or severe injury. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 68-12-2	DIMETHYL FORMAMIDE Colorless, watery liquid; slight ammonia odor.	
SYNONYMS	N,N-dimethyl formamide, DMF	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible. Highly toxic. Absorbed by the skin. Highly irritating. TLV 10 ppm in air by skin absorption.	
EXPOSURE	Liquid Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS no. 57-14-7	1,1-DIMETHYL HYDRAZINE Colorless, watery liquid; fishy or ammonia-like odor	
SYNONYMS	asym-dimethyl hydrazine, Dimazine, unsym-dimethylhydrazine, UDMH	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Extremely flammable. Flashback along vapor trail may occur. DANGEROUS GASES ARE PRODUCED WHEN HEATED. Can react vigorously with oxidizing materials. Highly toxic. Absorbed by skin. TLV 0.5 ppm in air by skin absorption.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 77-73-1	DIMETHYL SULFATE Colorless liquid; mild onion odor.	
SYNONYMS	Methyl sulfate.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible liquid. Can react with oxidizing materials. POISONOUS GASES ARE PRODUCED WHEN HEATED. Possible carcinogenic. Highly toxic. Absorbed by the skin. Particularly hazardous to eyes. TLV 1 ppm.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 67-68-5	DIMETHYL SULFOXIDE Colorless, liquid; mild garlic odor.	
SYNONYMS	DMSO	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Can react with oxidizing materials. Dangerous if ingested. Slight inhalation hazard. Freely penetrates skin. Moderately toxic by skin absorption. Can act as solvent for skin absorption of other more toxic materials. An irritant and allergen. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 97-02-9	2,4-DINITROANILINE Yellow powder or crystals; musty odor.	
SYNONYMS	2,4-dinitrophenylamine.	
SAFETY MEASURES	AVOID CONTACT WITH SOLID AND DUST. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable. May explode if subjected to heat or flame. Can react with oxidizing agents. POISONOUS GAS IS PRODUCED WHEN HEATED. Highly toxic by ingestion and inhalation. Strong irritant. A powerful poison.	
EXPOSURE	Dust POISONOUS IF INHALED. Move to fresh air. Solid POISONOUS IF SWALLOWED OF IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 1344-30-5	DINITRO-ORTHO, SEC-BUTYL PHENOL Crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See nitrates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 51-28-5	2,4-DINITROPHENOL Yellow crystals; sweet musty odor.	
SYNONYMS	o-Dinitrophenol, 1-hydroxy-2,4-dinitro-benzene.	
SAFETY MEASURES	AVOID CONTACT WITH SOLID AND DUST. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Flammable. POISONOUS GAS IS PRODUCED WHEN HEATED. Highly explosive. Highly toxic. Absorbed by the skin. Dust inhalation may be fatal. Can damage liver, kidneys, or cause death. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Dust POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Solid POISONOUS IF SWALLOWED. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 105-23-1	DIOCTYL ADIPATE Odorless, colorless, oily liquid.	
SYNONYMS	Adipic acid bis(2-ethylhexyl)ester, Di(2-ethylhexyl)adipate	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. When heated, it emits acrid fumes. Can react with oxidizing materials.	
EXPOSURE	Liquid Irritating to eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 117-31-7	DIOCTYL PHTHALATE Colorless, oily liquid; slight odor.	
SYNONYMS	Phthalic acid, bis(2-ethylhexyl ester), DOP, Bis(2-ethylhexyl) phthalate, Di(2-ethylhexyl)phthalate, actoil di-sec-octyl phthalate.	
SAFETY MEASURES		
HAZARDS	Combustible. May react with oxidizing agents. Probably a slight ingestive and inhalative toxin.	
EXPOSURE	Not harmful.	

CAS No. 125-91-1	1,4-DIOXANE Colorless liquid; slight alcohol odor.	
SYNONYMS	Dioxane, p-dioxane, diethylene oxide, diethylene dioxide, dioxyethylene ether.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable liquid. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Can form explosive peroxides under certain conditions. Highly toxic by inhalation. Absorbed by the skin. Eye, skin and respiratory irritant and poison. Repeated exposure to low concentrations has resulted in death. TLV 100 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk; have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 92-52-4	DIPHENYL	
SYNONYMS	Biphenyl.	
SAFETY MEASURES		
HAZARDS	Slightly flammable. Can react with oxidizing materials. Highly toxic by ingestion or inhalation. TLV 0.2 ppm in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 26447-40-5	DIPHENYL METHANE DIISOCYANATE White-to-light yellow solid.	
SYNONYMS	MDI, Diphenylmethane-4,4'-diisocyanate, methylene bis-(4-phenyl isocyanate), methylene-diparaphenylene isocyanate.	
SAFETY MEASURES	Avoid contact with solid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. Moderately toxic. Strong irritant. TLV 0.02 ppm in air.	
EXPOSURE	Solid Irritating to skin and eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 2764-72-9	DIQUAT	
SYNONYMS	Aquacide, Dextrone, Reglone, Diquat dibromide	
SAFETY MEASURES	Avoid contact with compound. Wear chemical-protective suit and self-contained breathing apparatus.	
HAZARDS	Highly toxic on contact. TLV 0.5 mg/m ³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

	DISTILLATES STRAIGHT RUN Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Straight run gasoline.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 298-24-4	DISULFONTON	
SYNONYMS	o,o-diethyl-s-2-(ethylthio)ethyl phosphorodithioate.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion or inhalation. Absorbed by the skin.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 330-54-1	DIURON	
SYNONYMS	3-(3,4-dichlorophenyl)-1,1-dimethylurea.	
SAFETY MEASURES	Non-flammable. On decomposition emits highly toxic fumes.	
HAZARDS	On decomposition emits highly toxic fumes. Highly toxic.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 112-54-9	DODECANOL Colorless, thick liquid; sweet odor.	
SYNONYMS	Lauryl alcohol, Dodecyl alcohol.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable.	
EXPOSURE	Liquid Irritating to skin. Will burn eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 25373-22-7	DODECENE Colorless, watery liquid; pleasant odor.	
SYNONYMS	Dodecylene, propylene tetramer.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. May react with oxidizing materials.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 112-41-4	1-DODECENE Colorless, watery liquid; mild pleasant odor.	
SYNONYMS	Alpha-Dodecylene.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 27176-37-3	DODECYL BENZENE SULFONIC ACID DOBSA, sodium dodecylbenzenesulfonate.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Moderately toxic by ingestion.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 8004-13-5	DOWTHERM Light-dark brown liquid; fragrant odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid. Wear self-contained breathing apparatus.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 2921-88-2	DURSBAN	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. Affects nervous system. See chlorides and parathion.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 72-20-8	ENDRIN	
SYNONYMS		
SAFETY MEASURES	Nonflammable. Powder will decompose on heating, emitting highly toxic fumes of hydrogen chloride and chlorinated decomposition products. Highly toxic by inhalation, ingestion, and skin absorption. See aldrin. TLV 0.25 mg/m³ of air.	
HAZARDS		
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 106-39-3	EPICHLOROHYDRIN Colorless, watery liquid; sweet garlic odor.	
SYNONYMS	1-chloro-2,3-epoxypropane, 3-chloro-1,2-propylene oxide.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind. Materials quickly corroded by hydrogen chloride should not be used.	
HAZARDS	Moderately flammable. Vapors may explode if ignited in an enclosed area. POISONOUS GASES OF PHOSGENE ARE PRODUCED IN FIRE. Can react with oxidizing materials. Irritant and allergen. Highly toxic by ingestion, inhalation, and skin absorption. Estimated that 1 gram could be fatal. See phosgene. TLV 5 ppm.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

C/S No. 74-34-0	ETHANE Colorless, liquefied compressed gas; gasoline odor.	
SYNONYMS	Bimethyl, methyl methane, dimethyl, ethyl hydride.	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor explosive if ignited in an enclosed area. May react vigorously with oxidizing materials. A simple asphyxiant.	
EXPOSURE	Vapor If inhaled will cause difficult breathing. Not irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 563-12-2	ETHION Liquid.	
SYNONYMS	o,o,o',o'-tetraethyl-s,s-methylene diphosphorodithioate.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits highly toxic fumes of oxides of sulphur and phosphorus. Probably highly toxic. See parathion.	
EXPOSURE	CALL FOR MEDICAL AID.	

	ETHOXY TRIGLYCOL Odorless, colorless liquid.	
SYNONYMS	Ethoxytriethylene glycol, Triethylene glycol monoethyl ether.	
SAFETY MEASURES		
HAZARDS	Combustible.	
EXPOSURE	Not harmful.	

CAS No. 9002-92-0	ETHOXYLATED DODECANOL Colorless-to-yellow oily liquid; pleasant odor.	
SYNONYMS	Ethoxylated dodecyl alcohol, ethoxylated lauryl alcohol, Tergitol nonionic, TMN.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin. Will burn eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 34393-05-5	ETHOXYLATED PENTADECANOL Colorless-to-yellow liquid; pleasant odor.	
SYNONYMS	Ethoxylated pentadecyl alcohol, Tergitol nonionic 45-S-10.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin. Will burn eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 27306-79-2	ETHOXYLATED TETRADECANOL Colorless-to-yellow liquid; pleasant odor.	
SYNONYMS	Ethoxylated tetradecyl alcohol, ethoxylated myristyl alcohol, Tergitol nonionic 45-S-10.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to the skin. Will burn eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.	

CAS No. 24933-91-8	ETHOXYLATED TRIDECANOL Colorless-to-yellow liquid; pleasant odor.	
SYNONYMS	Ethoxylated tridecyl alcohol, Tergitol nonionic 3-A-6.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin. Will burn eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 141-78-6	ETHYL ACETATE Colorless, watery liquid; pleasant fruity odor.	
SYNONYMS	Acetic acid ethyl ester, ethyl ethanoate, acetic ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear eye and respiratory equipment. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in enclosed area. May react vigorously with oxidizing materials. Moderately toxic by inhalation, ingestion, and skin absorption. Irritating to skin and eyes. High concentrations may injure kidney and liver. TLV 400 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled will cause headache, dizziness, nausea, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 140-88-5	ETHYL ACRYLATE Colorless liquid; fruity odor.	
SYNONYMS	Acrylic acid ethyl ester, Ethyl-2-propenoate.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Can penetrate the skin. TLV 25 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache or nausea. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 64-17-5	ETHYL ALCOHOL Colorless watery liquid; alcohol odor.	
SYNONYMS	Alcohol, grain alcohol, denatured alcohol, ethanol.	
SAFETY MEASURES		
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. May react vigorously with oxidizing materials. Moderately toxic by ingestion and inhalation. Mild irritant. Can be absorbed by the skin. Narcotic properties. TLV 1000 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. <u>Liquid</u> Not harmful. CALL FOR MEDICAL AID.	

CAS No. 100-41-4	ETHYL BENZENE Colorless liquid; sweet, gasoline-like odor.	
SYNONYMS	EB, phenylethane, ethylbenzol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Moderately toxic by ingestion, inhalation and skin absorption. Strong irritant. Narcotic in high concentrations. TLV 100 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 75-00-3	ETHYL CHLORIDE Colorless liquid; pleasant odor.	
SYNONYMS	Chloroethane, ether hydrochloric, muriatic ether.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Highly flammable liquid which rapidly volatilizes at room temperature. Vapor may explode if ignited in an enclosed area. POISONOUS PHOSGENE GAS IS PRODUCED IN FIRE. Reacts with water or steam to produce toxic and corrosive fumes. Can react violently with oxidizing materials. Slight eye, skin and respiratory irritant. Inhalation produces narcotic and anesthetic effects. See phosgene. TLV 1000 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Will cause frostbite. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 60-29-7	ETHYL ETHER Colorless, watery liquid; sweet odor.	
SYNONYMS	Sulfuric ether, anesthesia ether, ether, diethyl oxide.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Severe explosive hazard. Moderately toxic by ingestion, inhalation, and skin absorption. Medical anesthetic. TLV 400 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, headache, and loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 645-62-5	2-ETHYL-3-PROPYLACROLEIN Yellow liquid.	
SYNONYMS	2-ethylhexenal, 2-ethyl-3-propyl acrylaldehyde	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable. Can react with oxidizing materials. Moderately toxic by inhalation or ingestion. Strong irritant.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 74-85-1	ETHYLENE Colorless liquefied compressed gas; sweet odor.	
SYNONYMS	Ethene, elayl, etherin.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable gas. Flashback along vapor trail may occur. May explode if ignited in an enclosed area. Explosive in sunlight with chlorine. Can react vigorously with oxidizing materials. High concentrations cause anesthesia. A simple asphyxiant. Moderately toxic by inhalation.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose and throat. If inhaled, will cause headache, dizziness, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 107-15-3	ETHYLENE DIAMINE Colorless liquid; mild ammonia odor.	
SYNONYMS	1,2-diaminoethane, 1,2-ethanediamine.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. May react with oxidizing materials. Strong irritant to skin and eyes. Highly toxic by inhalation and skin absorption. TLV 10 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 60-00-4	ETHYLENE DIAMINE TETRAACETIC ACID Odorless, white solid powder.	
SYNONYMS	EDTA, versene acid, tetrine acid, ethylene bis(iminodiacetic acid).	
SAFETY MEASURES		
HAZARDS	Non-flammable.	
EXPOSURE	Solid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 106-93-4	ETHYLENE DIBROMIDE Colorless liquid; sweet odor.	
SYNONYMS	1,2-Dibromoethane, glycol dibromide.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Non-flammable. Reacts vigorously with metals (aluminum, magnesium, radium and potassium), strong alkalis and oxidizing agents. POISONOUS GASES ARE PRODUCED WHEN HEATED. Toxic by inhalation, skin contact, or ingestion. Strongly irritating to eyes, skin and respiratory tract. Prolonged or repeated exposures in any form are hazardous. TLV 25 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 107-06-2	ETHYLENE DICHLORIDE Colorless liquid; sweet odor.	
SYNONYMS	1,2-Dichloroethane, ethylene chloride, EDC, dichloroethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear gas-type goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Flammable. Moderately explosive. Flashback along vapor trail may occur. POISONOUS GASES ARE PRODUCED IN FIRE. Toxic by inhalation, skin contact or ingestion. Very serious eye irritant. Narcotic. TLV 50 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, dizziness, or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 107-21-1	ETHYLENE GLYCOL Odorless, colorless thick liquid.					
SYNONYMS	Glycol, monoethylene glycol, 1,2-ethanediol, glycol alcohol, ethylene alcohol.					
SAFETY MEASURES						
HAZARDS	Flammable. Moderate explosion hazard when exposed to heat or flame. Ingestive poison. Very toxic in particulate form. May be fatal through kidney damage. <table><tr><td>Particulate</td><td>Vapor</td></tr><tr><td>TLV 10 mg/m³</td><td>100 ppm</td></tr></table>		Particulate	Vapor	TLV 10 mg/m ³	100 ppm
Particulate	Vapor					
TLV 10 mg/m ³	100 ppm					
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.					

CAS No. 110-71-4	ETHYLENE GLYCOL DIMETHYL ETHER Colorless liquid; fragrant odor.	
SYNONYMS	Monoglyme, 1,2-dimethoxyethane, glyme, dimethylcellosolve, Ansul ether 12, GDME, glycol dimethyl ether.	
SAFETY MEASURES		
HAZARDS	Combustible. May react with oxidizing materials. Explosive when exposed to sparks or flame.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Not irritating to skin. If swallowed will cause nausea, vomiting, or loss of consciousness. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 111-15-9	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE Colorless liquid; pleasant odor.	
SYNONYMS	Poly-solv EE acetate, Cellosolve acetate, 2-ethoxyethylacetate.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Vapor may explode if exposed to heat. Highly toxic by ingestion, inhalation and skin absorption. See glycols. TLV 25 ppm in air.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 75-21-8	ETHYLENE OXIDE Colorless, liquefied gas; sweet odor.	
SYNONYMS	Oxinane, 1,2-epoxyethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear gas-tight goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Containers may explode when heated. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. May react with oxidizing materials. Highly explosive when exposed to flame. Highly toxic. Irritating to skin and eyes. TLV 50 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting and difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 151-56-1	ETHYLENEIMINE Colorless, oily liquid; ammonia odor.	
SYNONYMS	Dimethyleneimine, aziridine.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Containers may explode when heated. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Heat and/or the presence of catalytically active metals or chloride ions can cause a violent exothermic reaction. When heated to decomposition, emits highly toxic fumes. Highly toxic and corrosive. Absorbed by the skin. Intensely irritating to skin. TLV 0.5 ppm in air.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 1135-57-5	FERRIC AMMONIUM CITRATE	
SYNONYMS	Iron ammonium citrate.	
SAFETY MEASURES		
HAZARDS	Toxicity low.	
EXPOSURE		

CAS No. 55488-87-4	FERRIC AMMONIUM OXALATE	
SYNONYMS	Iron ammonium oxalate.	
SAFETY MEASURES		
HAZARDS	Emits toxic fumes when heated. Moderately toxic. Irritant to skin and mucous membranes.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS no. 7705-08-0	FERRIC CHLORIDE Black-brown solid.	
SYNONYMS	Iron chloride, ferric trichloride, ferric perchloride, iron trichloride, iron perchloride.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Dangerous, when heated to decomposition, it emits highly toxic fumes of chlorides and hydrochloric acid. Will react with water to produce toxic and corrosive fumes. Mild irritant. Moderately toxic by ingestion.	
EXPOSURE		

CAS No. 7733-50-8	FERRIC FLUORIDE Green crystals.	
SYNONYMS	Iron fluoride.	
SAFETY MEASURES		
HAZARDS	Highly toxic. Strong irritant. See fluorides. TLV 2.5 mg/m ³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1301-70-3	FERRIC GLYCEROPHOSPHATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS		
EXPOSURE		

CAS No. 10421-43-4	FERRIC NITRATE Crystals.	
SYNONYMS	Iron nitrate.	
SAFETY MEASURES		
HAZARDS	Reacts with organic materials. Strong oxidant and irritant. See nitrates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10045-86-0	FERRIC PHOSPHATE Iron phosphate.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Low toxicity.	
EXPOSURE		

CAS No. 10028-22-5	FERRIC SULFATE	
SYNONYMS	Iron sulfate, ferric trisulfate, iron tersulfate, iron persulfate.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Emits sulfur oxides when heated to decomposition. Mild irritant. Slightly toxic by ingestion. Practically non-toxic systemically.	
EXPOSURE		

CAS No. 10045-89-3	FERROUS AMMONIUM SULFATE	
SYNONYMS	Mohr's salt, iron ammonium sulfate.	
SAFETY MEASURES		
HAZARDS		
EXPOSURE		

CAS No. 7758-94-3	FERROUS CHLORIDE Green-to-yellow, deliquescent crystals.	
SYNONYMS	Iron chloride, iron dichloride, iron protochloride, Lawrencite.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits highly toxic fumes of hydrochloric acid. Low toxicity. See chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 516-03-0	FERROUS OXALATE	
SYNONYMS	Iron oxalate.	
SAFETY MEASURES		
HAZARDS	EVOLVES CARBON MONOXIDE ON HEATING. Highly toxic. See oxalates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS NO. 7720-78-7	FERROUS SULFATE Odorless, green solid.	
SYNONYMS	Iron vitriol, green vitriol, Copperas, iron(ous) sulfate, Sal-chalbis.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Slightly toxic by inhalation and ingestion. Mild irritant.	
EXPOSURE	Solid If swallowed will cause nausea, vomiting or loss of consciousness. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is CONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	FLUORIDES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition or on contact with acid or acid fumes; they emit highly toxic fumes. Inorganic fluorides are generally highly irritant and toxic.	
EXPOSURE		

CAS No. 7782-41-4	FLUORINE Clear-to-yellow liquefied gas; very irritating odor	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Non-flammable. WILL CAUSE FIRE AND REACT VIOLENTLY WITH COMBUSTIBLES. POISONOUS GAS IS PRODUCED IN FIRE. Dangerously reactive gas. Reacts vigorously with most oxidizable and reducing substances at room temperature, frequently with ignition. Reacts with water to form hydrogen fluoride and oxygen. Reacts with nitric acid to form explosive gas. Toxic gas. A very powerful caustic irritant. Burns skin, eyes, and respiratory tract. Fatal dose 0.5 g/kg of body weight. TLV 0.1 ppm. 2.5 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Will cause frostbite. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 50-00-0	FORMALDEHYDE Colorless watery liquid; irritating odor.	
SYNONYMS	Formalith, Fyde, formaline, formic aldehyde solution, methanal solution, oxymethylene.	
SAFETY MEASURES	Avoid contact with liquid. Wear gas-tight goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible. Vapor will burn. Explosive at elevated temperatures. Highly toxic by inhalation, ingestion, or skin contact. Irritant to eyes, skin and respiratory tract. Allergen. TIV 2 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Liquid</u> Will burn skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 64-18-6	FORMIC ACID Colorless liquid; penetrating odor.	
SYNONYMS	Methanoic acid, hydrogen carboxylic acid, formylic acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible. Strong reducing agent. Highly toxic by inhalation or ingestion on short exposure. Strong irritant to eyes. Produces blisters and burns on contact. TLV 5 ppm in air.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES. hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 93-01-1	FURFURAL	
SYNONYMS	2-furancarboxal, 2-furaldehyde, fural, furale, ant oil, pyromucic aldehyde, bran oil.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Flammable liquid. Vapor forms flammable mixture with air. Moderately explosive when exposed to heat, flame or by chemical action. Explosion may occur on contact with mineral acid, alkalis, or heat and flame. May react with oxidizing materials. Irritant. Highly toxic. Absorbed by the skin. Very dangerous to eyes. TLV 5 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	GASOLINES	
SYNONYMS		
SAFETY MEASURES	Stay upwind.	
HAZARDS	Flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts with oxidizing materials. Moderately explosive when exposed to flame. Acts as a simple asphyxiant. TIV 500 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing and loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 56-81-5	GLYCERINE Odorless, colorless oily liquid.	
SYNONYMS	1,2,3-propanetriol, 1,2,3-trihydroxypropane, glycerol, glycol alcohol.	
SAFETY MEASURES		
HAZARDS	Flammable. Can react violently with powerful oxidizers. Mild irritant. Slight ingestive toxin.	
EXPOSURE	Not harmful.	

CAS No. 106-91-2	GLYCIDYL METHACRYLATE Colorless liquid; fruity odor.	
SYNONYMS	Glycidyl alpha-methyl acrylate, methacrylic acid-2,3-epoxy-propyl ester.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

	GLYCOLS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Dihydric alcohols are physically and chemically related to glycerol. Most glycols have low volatility and consequently present little danger from inhalation of vapors. Severe and even fatal poisonings have been reported following ingestion of ethylene glycol.	
EXPOSURE		

CAS No. 36-50-0	GUTHION Crystals.	
SYNONYMS	Gusathion, Azinphos-methyl.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Highly toxic by ingestion, inhalation and skin absorption. Affects nervous system. May cause death or permanent injury after short exposure. See parathion. TLV 2 mg/m³ in air by skin absorption.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 76-44-8	HEPTACHLOR Crystals.	
SYNONYMS	Velsicol-104, E-3314, Heptagran, Drinox.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Dangerous when heated to decomposition, it emits highly toxic fumes. Highly toxic by ingestion, inhalation or skin exposure. Acute exposure will cause liver damage. TLV 0.25 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 142-32-5	HEPTANE Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Heptyl hydride, dipropyl methane, n-heptane.	
SAFETY MEASURES	Stay unwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor can explode if ignited in an enclosed area. May react vigorously with oxidizing materials. Narcotic in high concentrations. Moderately toxic by inhalation. TLV 500 ppm in air. DA HAZARDOUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose or throat. If inhaled, will cause coughing or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 53535-33-4	HEPTANOL Colorless, watery liquid; weak alcohol odor.	
SYNONYMS	Enanthic alcohol, 1-hydroxyheptane, 1-heptanol, heptyl alcohol, alcohol C-7. Enanthy alcohol.	
SAFETY MEASURES		
HAZARDS	Moderately flammable. May react with oxidizing materials. Direct contact may dry skin by drawing out oils. Probably low toxicity.	
EXPOSURE	Not harmful.	

CAS No. 592-76-7	1-HEPTENE Colorless watery liquid; gasoline-like odor.	
SYNONYMS	α -heptylene, heptylene.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. A simple asphyxiant.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 124-09-4	HEXAMETHYLENE DIAMINE Colorless solid or watery liquid; ammonia odor.	
SYNONYMS	1,6-hexanediamine, 1,6-diaminohexane.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible. Can react with oxidizing materials. When heated to decomposition, emits toxic vapors. May irritate skin, eyes, and mucous membranes. Moderately toxic by ingestion. Strong irritant.	
EXPOSURE	Liquid or Solid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 100-97-0	HEXAMETHYLENE TETRAMINE White crystals or powder; mild ammonia odor.	
SYNONYMS	Methenamine, formamine, hexamine, urotropin, metramine, HEXA, ammonioformaldehyde, HMTA.	
SAFETY MEASURES	Avoid contact with solid.	
HAZARDS	Flammable. On decomposition liberates formaldehyde. May react with oxidizing materials.	
EXPOSURE	Solid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 110-54-3	HEXANE Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	N-hexane, hexyl hydride.	
SAFETY MEASURES	Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Can react vigorously with oxidizing materials. Vapor may explode if ignited in an enclosed area. May irritate respiratory tract. Narcotic in high concentrations. Slightly toxic by inhalation and ingestion. TLV 500 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to nose and throat. If inhaled, will cause coughing and dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 25917-35-5	HEXANOL Colorless clear liquid; sweet odor.	
SYNONYMS	n-hexyl alcohol, n-amyl carbinol, 1-hexanol.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable. Can react with oxidizing agents. Low toxicity.	
EXPOSURE	Liquid Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 25264-93-1	1-HEXENE Colorless, watery liquid; mild pleasant odor.	
SYNONYMS	Butylethylene, hexylene, α-hexene.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear protective clothing and self-contained breathing apparatus Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. May react vigorously with oxidizing materials. Moderately toxic and irritant.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 107-41-5	HEXYLENE GLYCOL Colorless, oily liquid; mild sweet odor.	
SYNONYMS	2-methyl-2,4-pentanediol	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials. Large oral doses can produce narcosis. Irritating to skin, eyes, and mucous membranes. See glycols.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 302-01-2	HYDRAZINE Colorless, watery liquid; ammonia odor.	
SYNONYMS	Hydrazine base, diamine, hydrazine anhydrous.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable and explosive. May ignite by itself when in contact with earth, wood, or cloth. Vapor may explode if ignited in an enclosed area. When heated to decomposition, emits toxic fumes. Vapors are very toxic and attack eyes and respiratory system. Liquid is corrosive to skin. Can be absorbed by the skin. TLV 1 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7664-39-3	HYDROFLUORIC ACID Colorless-to-green watery liquid; irritating odor.	
SYNONYMS	Fluorhydric acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit and self-contained breathing apparatus. Need plastic lens goggles (attacks glass). Stay upwind.	
HAZARDS	Non-flammable. Flammable gas may be produced on contact with metals. When heated it emits highly corrosive fumes of fluorides. Will react with water or steam to produce toxic or corrosive fumes. Highly toxic by inhalation or ingestion. Highly corrosive to skin and mucous membranes. Gangrene of affected areas may follow. TLV 3 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Will burn eyes, nose and throat. Harmful if swallowed. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7647-01-0	HYDROGEN CHLORIDE Colorless-yellow, liquefied gas; irritating odor.	
SYNONYMS	Hydrochloric acid, anhydrous.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Non-flammable. Flammable gas may be produced on contact with metals. TLV 5 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Will cause frostbite. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 74-90-8	HYDROGEN CYANIDE Colorless, watery liquid or gas; bitter almond odor.	
SYNONYMS	Hydrocyanic acid, prussic acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. EVACUATE AREA. WEAR CHEMICAL-PROTECTIVE SUIT WITH SELF-CONTAINED BREATHING APPARATUS. Breathing apparatus alone is not considered adequate protection in atmospheres containing more than 100 ppm because toxic amounts can be absorbed through the skin. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Highly explosive when exposed to heat or flame and by chemical reaction with oxidizers. Will react with water, steam, acid or acid fumes to produce toxic fumes. Extremely toxic - a few breaths can cause death. See cyanides. TLV 10 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration (but <u>NOT</u> mouth-to-mouth). If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 7664-39-3	HYDROGEN FLUORIDE Colorless liquid; sharp irritating odor.	
SYNONYMS	Hydrofluoric acid, anhydrous.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit including self-contained breathing apparatus. Stay upwind.	
HAZARDS	Non-flammable. Flammable gas may be produced on contact with metals. When heated it emits highly toxic fumes of fluorides. Will react with water or steam to produce toxic and corrosive fumes. TLV 3 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 772-84-1	HYDROGEN PEROXIDE Colorless, watery liquid; slight sharp odor.	
SYNONYMS	Hydrogen dioxide, peroxide, albione, superoxol.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR.	
HAZARDS	Non-flammable. Powerful oxidizing material. May cause fire and explode on contact with combustible metals. Violent decomposition may be caused by contact with iron, copper, chromium, brass, bronze, lead, silver, manganese and their salts. Severely explosive when highly concentrated or exposed to heat or mechanical impact. Extremely irritating to eyes, skin and respiratory tract. TLV 1 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7783-06-4	HYDROGEN SULFIDE Colorless liquefied compressed gas; rotten egg odor	
SYNONYMS	Sulfuretted hydrogen.	
SAFETY MEASURES	Avoid contact with gas. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable gas. Flashback along vapor trail may occur. May explode if ignited in an enclosed area. Forms explosive mixture with air. When heated to decomposition, emits highly toxic fumes of oxides of sulfur. Reacts vigorously with oxidizing materials and nitric acid. Highly toxic by inhalation. Strong irritant to eyes and mucous membranes. Asphyxiant - high concentrations can cause almost immediate death. TLV 20 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 123-31-9	HYDROQUINONE Colorless, hexagonal prisms.	
SYNONYMS	1,4-benzenediol, quinol, hydroquinol.	
SAFETY MEASURES	Avoid contact with solid or vapors.	
HAZARDS	Flammable. Slightly explosive when exposed to heat. Reacts with oxidizing materials. Irritant and allergen. TLV 2 ppm.	
EXPOSURE	Solid or Dust Harmful if inhaled. Harmful if swallowed. Will cause nausea, dizziness, headache and finally collapse. On contact with skin will cause dermatitis. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Remove contaminated clothing and shoes. Flush affected areas with plenty of soap and warm water. CALL FOR MEDICAL AID.	

CAS No. 7303-49-8	HYDROXYLAMINE Colorless liquid or white needles.	
SYNONYMS	Oxammonium.	
SAFETY MEASURES		
HAZARDS	Highly flammable. Highly explosive under confinement. When heated to decomposition, emits toxic vapors. Moderately toxic by inhalation and ingestion. A local irritant.	
EXPOSURE		

	IODIDES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Similar in toxicity to bromides. Prolonged absorption of iodides may produce "iodism" which is manifested by skin rash, runny nose, headache and irritation of mucous membranes. In severe cases, the skin may show pimples, boils, redness, black and blue spots, hives and blisters. When heated to decomposition they emit highly toxic fumes of iodine and iodine compounds.	
EXPOSURE		

CAS No. 123-51-3	ISOAMYL ALCOHOL Colorless, liquid; mild choking alcohol odor.	
SYNONYMS	Isobutyl carbinol, fusel oil, isopentyl alcohol, 3 methyl-1-butanol, fermentation amyl alcohol.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Slightly explosive when exposed to heat or flame. Reacts vigorously with oxidizing materials. Moderately toxic and irritant. TLV 100 ppm in air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water CALL FOR MEDICAL AID.	

CAS No. 75-28-5	ISOBUTANE Odorless, colorless, liquefied compressed gas.	
SYNONYMS	2-methylpropane, trimethyl methane.	
SAFETY MEASURES	Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Highly explosive when exposed to heat or flame. Can react vigorously with oxidizing materials.	
EXPOSURE	<u>Vapor</u> Irritating to eyes. If inhaled, will cause dizziness, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 110-19-0	ISOBUTYL ACETATE Colorless, watery liquid; pleasant fruity odor.	
SYNONYMS	Acetic acid isobutyl ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. May explode if ignited in an enclosed area. Extremely explosive near heat or flame. Moderately toxic by ingestion or inhalation. Narcotic in high concentrations. TLV 150 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, dizziness, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS no. 106-63-8	ISOBUTYL ACRYLATE Colorless watery liquid; sharp fragrant odor.	
SYNONYMS	Isobutyl-2-propenoate, acrylic acid isobutyl ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor.	
HAZARDS	Combustible.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 70-83-1	ISOBUTYL ALCOHOL Colorless, oily liquid; mild alcohol, choking odor.	
SYNONYMS	Isopropylcarbinol, 2-methyl-1-propanol, isobutanol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Flammable. Moderately explosive when exposed to heat or flame. Vapor may explode if ignited in an enclosed area. Emits toxic fumes when heated. Strong irritant. Highly toxic by ingestion or inhalation. TLV 100 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, dizziness, and headache. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. Harmful if swallowed. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 115-11-7	ISOBUTYLENE Colorless, liquefied compressed gas; gasoline odor.	
SYNONYMS	Isobutene, 2-methylpropene.	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Simple asphyxiant. May have narcotic action.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 70-94-2	ISOBUTYRALDEHYDE Colorless watery liquid;pleasant gasoline-like odor	
SYNONYMS	2-methyl propanal, isobutyric aldehyde, isobutylaldehyde.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with reducing materials.	
EXPOSURE	Vapor Irritating to eyes, nose and throat. If inhaled, will cause difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Irritating to skin. Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 132-89-7	ISODECALDEHYDE Colorless liquid, fruity odor.	
SYNONYMS	Isodecaldehyde mixed isomers.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Probably toxic by ingestion, inhalation, and skin absorption. Strong irritant.	
EXPOSURE	Liquid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID	

CAS No. 25539-17-7	ISODECYL ALCOHOL Colorless liquid, mild alcohol odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid Wear goggles and rubber overclothing (including gloves.)	
HAZARDS	Moderately flammable.	
EXPOSURE	Liquid Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. If SWALLOWED and victim is CONSCIOUS, have victim drink water, or milk. CALL FOR MEDICAL AID.	

CAS No. 107-83-5	ISOHEXANE Watery, liquid; gasoline-like odor.	
SYNONYMS	2-methylpentane	
SAFETY MEASURES	Stay upwind	
HAZARDS	Highly flammable. Flash back along vapor trail may occur. Explosive when exposed to sparks, heat or open flame. Can react with oxidizing materials. Vapor may explode if ignited in an enclosed area.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INCLUDE VOMITING. CALL FOR MEDICAL AID	

CAS No. 26952-21-6	ISOOCTYL ALCOHOL Colorless liquid; mild odor.	
SYNONYMS	Isooctanol, 6-methyl-1-heptanol, oxo-octyl alcohol	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Highly flammable. May be toxic by ingestion or inhalation.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID	

CAS No. 78-78-4	ISOPENTANE Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	1-methyl butane, isoamyl hydride, ethyldimethylmethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. See pentane.	
EXPOSURE	Vapor Irritating to nose and throat. If inhaled, will cause coughing, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 73-79-5	ISOPRENE Colorless watery liquid; mild odor	
SYNONYMS	2-methyl-1,3-butadiene, beta-methylbiviny1, 3-methyl-1-1,3-butadiene.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear skin protection and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable and explosive. Flashback along vapor trail may occur. Containers may explode in fire. Vapor may explode if ignited in an enclosed area. Reacts vigorously with reducing agents. Moderately toxic by inhalation and ingestion. Irritant. Narcotic in high concentrations. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID	

CAS No. 103-21-4	ISOPROPYL ACETATE Colorless, watery liquid; pleasant fruity odor.	
SYNONYMS	2-propyl acetate, acetic acid, isopropyl ester.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Moderately explosive when exposed to heat or flame. Moderately toxic by ingestion or inhalation. Narcotic in high concentrations. Mild irritant. TLV 250 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 67-63-0	ISOPROPYL ALCOHOL Colorless, watery liquid; unpleasant alcohol odor	
SYNONYMS	Isopropanol, 2-propanol, dimethyl carbinol, sec-propyl alcohol, rubbing alcohol	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Moderately explosive. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Moderately toxic by inhalation or ingestion. Absorbed by the skin. Narcotic in high concentrations. TLV 400 ppm in air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATION.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to eyes. Harmful if swallowed. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID	

	KEROSENE Colorless, watery liquid; fuel oil odor	
SYNONYMS	JP-1 Jet fuel, range oil, Fuel oil No.1, illuminating oil	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Moderate explosion hazard when exposed to flame or heat. DA HAZARDOUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID	

	LATEX, LIQUID SYNTHETIC White, liquid	
SYNONYMS	Plastic latex, synthetic rubber latex	
SAFETY MEASURES		
HAZARDS	Not flammable. Combustible solid produced when heated.	
EXPOSURE	Liquid Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID	

CAS No. 112-55-0	LAURYL MERCAPTAN Colorless, oily liquid, mild skunk odor	
SYNONYMS	1-dodecanethiol, dodecyl mercaptan, tert-dodecyl mercaptan	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Highly flammable. POISONOUS GASES PRODUCED WHEN HEATED.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. If swallowed, will cause nausea. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID	

CAS No. 15347-57-6	LEAD ACETATE White crystals or brown or gray lumps.	
SYNONYMS	Sugar of lead.	
SAFETY MEASURES		
HAZARDS	A suspected carcinogen. Highly toxic by ingestion, inhalation or skin absorption. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7645-25-2	LEAD ARSENATE Odorless, white solid.	
SYNONYMS	Plumbous arsenate, lead arsenate acid, lead-o-arsenate, lead di-o-arsenate, lead mono-o-arsenate, lead pyroarsenate, lead-m-arsenate.	
SAFETY MEASURES	AVOID CONTACT WITH SOLIDS. Wear skin protection and filter mask.	
HAZARDS	Not flammable. On heating, emits highly toxic fumes. Poisonous through acute or chronic inhalation, ingestion and skin absorption. Arsenate compounds are allergens and irritants. See lead compounds. TLV 0.15 mg/m³ in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solids POISONOUS IF SWALLOWED. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 10031-22-8	LEAD BROMIDE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic as dust. See lead compounds and bromides.	
EXPOSURE	CALL FOR MEDICAL AID	

CAS No. 7758-95-4	LEAD CHLORIDE White crystals	
SYNONYMS	Contunnite	
SAFETY MEASURES		
HAZARDS	Highly toxic by inhalation, ingestion and skin absorption See lead compounds and chlorides.	
EXPOSURE	CALL FOR MEDICAL AID	

	LEAD COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity of various lead compounds is dependent on several factors: 1. The solubility of the compound in body fluids. 2. The fineness of the particles of the compound. 3. Of the lead compounds, the carbonate, monoxide, and sulfate are considered more toxic than metallic lead. Lead arsenate is very toxic. Lead compounds can be absorbed through the skin, especially organic compounds of lead. Lead is a cumulative poison.	
EXPOSURE		

CAS No. 13314-96-5	LEAD FLUOBORATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See lead compounds	
EXPOSURE	CALL FOR MEDICAL AID	

CAS No. 7783-46-2	LEAD FLUORIDE Colorless solid	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic, strong irritant. See lead compounds and fluorides. TLV 2.5 mg/m ³ in air.	
EXPOSURE	CALL FOR MEDICAL AID	

CAS No. 10101-63-0	LEAD IODIDE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic See lead compounds and iodides.	
EXPOSURE	CALL FOR MEDICAL AID	

CAS No. 10099-74-8	LEAD NITRATE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Flammable. Strong oxidizing material. Decomposes at 210° C releasing toxic gaseous oxides of nitrogen. In contact with easily oxidized materials can cause ignition, combustion or explosion. Increases flammability of any combustible materials. Highly toxic. Can be absorbed by the skin. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7428-48-0	LEAD STEARATE White powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. Absorbed by the skin. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 15739-80-7	LEAD SULFATE White rhombic crystals.	
SYNONYMS	Anglisite.	
SAFETY MEASURES		
HAZARDS	Noncombustible. Highly toxic by ingestion, inhalation, and skin absorption. See lead compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1314-87-0	LEAD SULFIDE Silvery metallic crystals or black powder.	
SYNONYMS	Galena, plumbous sulfide.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 546-67-3	LEAD TETRAACETATE Colorless to faintly pink crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. Absorbed by the skin. See Lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 592-87-0	LEAD THIOCYANATE White, monoclinic crystals.	
SYNONYMS	Lead sulfocyanate.	
SAFETY MEASURES		
HAZARDS	Highly toxic by inhalation and ingestion. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 26265-65-6	LEAD THIOSULFATE White crystals.	
SYNONYMS	Lead hyposulfite.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits highly toxic fumes of lead and oxides of sulfur. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 12757-98-3	LEAD TUNGSTATE Yellowish powder.	
SYNONYMS	Lead wolframate.	
SAFETY MEASURES		
HAZARDS	Highly toxic. See lead compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

	LINEAR ALCOHOLS Colorless, liquid; mild alcohol odor.	
SYNONYMS	Tridecanol, tetradecanol.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	<u>Liquid</u> Irritating to skin. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

	LIQUEFIED NATURAL GAS Liquefied compressed gas; odorless or skunk odor.	
SYNONYMS	LNG	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. May explode if ignited in an enclosed area. Vapor forms explosive mixture with air. Incomplete combustion yields carbon monoxide. Vapor is a simple asphyxiant. TLV 1000 ppm.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose or throat. If inhaled, will cause dizziness, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected area with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

	LIQUEFIED PETROLEUM GAS Colorless, liquefied compressed gas; weak odor.	
SYNONYMS	Propane-butane-(propylene), Pyrofax, LPG.	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Containers may explode in fire. May explode if ignited in an enclosed area. TLV 1000 ppm.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose, or throat. If inhaled, will cause loss of consciousness, dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 16353-85-3	LITHIUM ALUMINUM HYDRIDE Odorless, white-to-gray solid powder.	
SYNONYMS	LAH, Lithium tetrahydroaluminate	
SAFETY MEASURES	Avoid contact with solid and dust. Wear rubber overclothing (including gloves).	
HAZARDS	Highly flammable. Flammable gas is released on contact with water, metals or acids. REACTS VIOLENTLY WITH WATER. When exposed to water or moisture, it produces very caustic lithium hydroxide. DO NOT USE WATER, DRY CHEMICALS, CARBON DIOXIDE OR FOAM ON FIRE. Highly caustic by inhalation, ingestion or skin absorption.	
EXPOSURE	Solid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 13043-81-7	LITHIUM BICHROMATE Yellowish-red, crystalline powder.	
SYNONYMS	Lithium dichromate.	
SAFETY MEASURES		
HAZARDS	Highly toxic. A recognized carcinogen. May ignite organic materials. Reacts with reducing materials. See chromium compounds. TLV as chromate = 0.2 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14307-35-8	LITHIUM CHROMATE Yellow crystalline powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Combustible. May ignite organic materials. Reacts with reducing materials. Highly toxic. Strong irritant. See chromium compounds. TLV as chromate = 0.1 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7789-24-4	LITHIUM FLUORIDE Fine white powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. Strong irritant to eyes and skin. See fluorides. TLV 2.5 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 121-75-5	MALATHION	
SYNONYMS	Dimethyl dithiophosphate of diethyl mercaptosuccinate, Cynthion insecticide.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE OR WHEN HEATED. Containers may explode in fire. Highly toxic by ingestion, inhalation, and skin absorption. TLV 15 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 110-16-7	MALEIC ACID White crystals, faint acidulous odor.	
SYNONYMS	Maleinic acid, toxilic acid, cis-butenedioic acid.	
SAFETY MEASURES		
HAZARDS	Slightly flammable (requires preheating). Moderately toxic by ingestion and inhalation. Strong irritant to tissues.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 108-31-6	MALEIC ANHYDRIDE Colorless crystals, tablets or molten; choking odor.	
SYNONYMS	Toxic anhydride, cis-butenedioic anhydride, 2,5-furandione.	
SAFETY MEASURES	Avoid contact with solid and liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Flammable. Dust cloud may explode if ignited by sparks or flame. When heated, emits toxic fumes. Can react with oxidizing materials, water or steam. Strong irritant. Highly toxic by ingestion or inhalation. TLV 0.25 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid or Solid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 1600-27-7	MERCURIC ACETATE White, crystalline powder.	
SYNONYMS	Mercury acetate.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury. Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 10124-48-8	MERCURIC AMMONIUM CHLORIDE White lumps or powder.	
SYNONYMS	Mercury ammonium chloride.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury. Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7789-47-1	MERCURIC BROMIDE Rhombic, colorless crystals.	
SYNONYMS	Mercury bromide.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury. Highly toxic by inhalation, ingestion, and skin absorption. Strong irritant. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7487-94-7	MERCURIC CHLORIDE White crystals or powder.	
SYNONYMS	Corrosive sublimate.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury and chlorides. Highly toxic by ingestion, inhalation and skin absorption. MAY BE FATAL. See mercury compounds and chlorides. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 592-04-1	MERCURIC CYANIDE White crystalline solid, odorless.	
SYNONYMS	Mercury cyanide.	
SAFETY MEASURES	Approach from upwind. Wear full protective clothing, self-contained breathing apparatus.	
HAZARDS	Dangerous, when heated to decomposition or on contact with acid or acid fumes, it emits highly toxic fumes of cyanides and mercury. Will react with water or steam to produce toxic fumes. Highly toxic by inhalation, ingestion, and skin absorption. See mercury compounds, hydrogen cyanide. TLV 0.05 mg/m³ in air.	
EXPOSURE	Remove contaminated clothing and shoes. Flush affected skin areas with water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7774-29-0	MERCURIC IODIDE Yellow or red crystals or powder.	
SYNONYMS	Mercury iodide.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury and iodides. Highly toxic by ingestion, inhalation, and skin absorption. Strong irritant. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 10045-94-0	MERCURIC NITRATE White-yellowish powder.	
SYNONYMS	Mercury nitrate, mercury pernitrate.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	Dangerous fire risk in contact with organic materials. Highly toxic. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 21908-53-2	MERCURIC OXIDE Odorless, orange-yellow or orange-red powder.	
SYNONYMS	Mercury oxide, red or yellow.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury. Can react with reducing materials. Highly toxic. See mercury compounds. TLV 0.05 mg/m³ in air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7783-35-9	MERCURIC SULFATE White crystalline powder.	
SYNONYMS		
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	Dangerous when heated to decomposition, emits highly toxic fumes of mercury. Highly toxic by ingestion, inhalation, or skin absorption. Is an allergen. See mercury compounds and sulfates. TLV 0.05 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 592-85-8	MERCURIC THIOCYANATE White powder.	
SYNONYMS	Mercuric sulfocyanate, mercury rhodanide, mercuric sulfocyanide, mercury sulfocyanate.	
SAFETY MEASURES	Full protective clothing; appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury and cyanide. If in contact with acid or acid fumes, will emit toxic fumes of cyanide. POISON. High irritant and allergen. Highly toxic by ingestion, inhalation, or skin absorption. TLV 0.05 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7546-30-7	MERCUROUS CHLORIDE White rhombic crystals or crystalline powder.	
SYNONYMS	Calomel; mercury monochloride; monochloride; mercury protochloride; mercury chloride.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of mercury and chlorides. When in contact with acids, evolves highly toxic chloride fumes. Highly irritant and allergenic. Highly toxic by ingestion, inhalation, or skin absorption. See mercury compounds and chlorides. TLV 0.05 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7783-30-4	MERCUROUS IODIDE Yellow tetragonal crystals or amorphous powder.	
SYNONYMS	Mercury protoiodide.	
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	When heated to decomposition, emits highly toxic fumes of iodine and iodine compounds or mercury. Irritant and allergen. Highly toxic by ingestion, inhalation, or skin absorption. See mercury compounds and iodides. TLV 0.05 mg/m of air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 10415-75-5	MERCUROUS NITRATE Short colorless prismatic crystals.	
SYNONYMS		
SAFETY MEASURES	Full protective clothing, appropriate breathing apparatus.	
HAZARDS	POISON. When heated to decomposition, emits highly toxic fumes of mercury. Explosion hazard. Nitrates may explode when shocked, when exposed to heat or flame, or by spontaneous chemical reaction. Irritant and allergen. Highly toxic by ingestion, inhalation, or skin absorption. See mercury compounds and nitrates. TLV 0.05 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

	MERCURY COMPOUNDS	
SYNONYMS		
SAFETY MEASURES	Avoid contact with all mercury compounds. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	When heated to decomposition, emit highly toxic fumes of mercury. Toxic by ingestion, inhalation or skin absorption. Mercury salts can cause severe eye injury. TLV 0.05 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 74-82-3	METHANE Colorless liquefied compressed gas; weak odor.	
SYNONYMS	Marsh gas, natural gas, methyl hydride.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Explosive when exposed to heat or flame. May explode if ignited in an enclosed area. A simple asphyxiant.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose and throat. If inhaled, will cause dizziness, difficult breathing and loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 22969-24-0	METHANEARSONIC ACID, SODIUM SALTS Odorless colorless solid or red or green solution.	
SYNONYMS	Disodium methane arsonate, monosodium methane arsonate, MSMA, DSMA, Sodium methylarsonate.	
SAFETY MEASURES	Avoid contact with solid and solution. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Non-flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED. Highly toxic by ingestion and inhalation. See arsenic compounds. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Solid or Solution Irritating to skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 72-43-5	METHOXYCHLOR Crystals.	
SYNONYMS	DMDT, Methoxy DDT.	
SAFETY MEASURES		
HAZARDS	Dangerous when heated to decomposition, it emits highly toxic fumes of chlorides. Prolonged exposure may cause kidney damage. Allergen. See also DDT. TLV 15 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 96-33-3	METHYL ACRYLATE Colorless, watery liquid; sweet sharp odor.	
SYNONYMS	Acrylic acid methyl ester, methyl-2-propenoate.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective suit and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Dangerous when heated to decomposition, it emits toxic fumes. Can react vigorously with oxidizing materials. Containers may explode when heated. Explosive when exposed to heat, sparks, or flame. Vapor may explode if ignited in an enclosed area. Severe eye and respiratory irritant. Absorbed by the skin. TLV 10 ppm in air; 35 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 67-56-1	METHYL ALCOHOL Colorless, watery liquid; alcohol odor.	
SYNONYMS	Methanol, wood alcohol, wood naphtha, wood spirit, pyroxylic spirit.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Highly flammable. Vapor may explode if ignited in an enclosed area. Flashback along vapor trail may occur. Can react vigorously with oxidizing materials. Moderately explosive when exposed to heat. Toxic by ingestion (causes blindness). Narcotic. TLV 200 ppm in air; 262 mg per am³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 54972-97-3	1-METHYLAMYL ALCOHOL Colorless, oily liquid; mild alcohol odor.	
SYNONYMS	Isobutyl methyl carbinol, 4-methyl-2-pentanol, methyl isobutyl carbinol.	
SAFETY MEASURES	Avoid contact with liquid or vapor.	
HAZARDS	Flammable. Can react with oxidizing materials. Highly toxic by ingestion and inhalation. A strong irritant. High concentrations cause anesthesia. TLV 25 ppm in air; 100 mg/m ³ of air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or difficult breathing. Harmful if skin is exposed. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 74-33-9	METHYL BROMIDE Colorless, liquefied gas; odorless to sweet odor.	
SYNONYMS	Bromomethane, Embafume.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles and self-contained breathing apparatus. Rubber or leather should not be used as they absorb methyl bromide. Equipment should not contain aluminum or magnesium parts. Stay upwind.	
HAZARDS	Practically non-flammable. When heated to decomposition, emits highly toxic fumes of bromide. POISONOUS AND IRRITATING GASES ARE PRODUCED IN FIRE. Absorbed by the skin. Irritating to lungs. May cause death. Extreme irritant to skin. May produce severe burns. High concentrations can cause fatal pulmonary edema. TLV 4 ppm in air; 78 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration (BUT NOT MOUTH-TO-MOUTH). If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 74-87-3	METHYL CHLORIDE Colorless, liquefied gas; odorless to sweet odor.	
SYNONYMS	Chloromethane.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear gas-tight goggles and self-contained breathing apparatus. Equipment should be resistant to hydrochloric acid with no aluminum, zinc, or organomagnesium parts or alloys. Stay upwind.	
HAZARDS	Highly flammable. POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Highly toxic by ingestion or inhalation. It has narcotic action. Can damage the central nervous system. TLV 100 ppm in air; 209 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose or throat. If inhaled, will cause nausea, vomiting, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 78-93-3	METHYL ETHYL KETONE Colorless liquid; sweet odor.	
SYNONYMS	2-Butanone, MEK, ethylmethyl ketone.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Can react with oxidizing materials. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Produces local mild irritation and narcosis. Moderately toxic by inhalation. TLV 200 ppm in air; 590 mg/m³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 104-90-5	2-METHYL-5-ETHYL PYRIDINE Colorless liquid; sharp odor.	
SYNONYMS	5-ethyl-2-picoline, MEP	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Flammable when exposed to heat or flame. Can react with oxidizing materials. Moderately toxic.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 108-10-1	METHYL ISOBUTYL KETONE Colorless, watery liquid; mild pleasant odor.	
SYNONYMS	4-methyl-2-pentanone, isobutyl methyl ketone, MIBK, Hexone, 2-pentanone isopropyl acetone.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear goggles and self-contained breathing apparatus and full-protective clothing. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. May react vigorously with reducing materials. Highly toxic by ingestion or inhalation. May cause narcosis. Irritating to eyes and mucous membranes. TLV 100 ppm in air; 409 mg/m ³ of air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 74-93-1	METHYL MERCAPTAN Liquid or gas.	
SYNONYMS	Methanethiol.	
SAFETY MEASURES		
HAZARDS	Highly flammable. On decomposition it emits highly toxic fumes of oxides of sulfur. Will react with water, steam, or acids to produce toxic and flammable vapors. Can react vigorously with oxidizing materials. TLV 0.5 ppm.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 30-62-6	METHYL METHACRYLATE	
SYNONYMS	Methacrylic acid methyl ester.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Moderately explosive. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can react with oxidizing materials. Containers may explode when heated. Irritant to eyes, skin and respiratory tract. Toxic by ingestion or inhalation. TLV 100 ppm. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 298-00-0	METHYL PARATHION White powder or as 80⁰ percent solution in xylene.	
SYNONYMS	Methron, MPT, Paridol, Alkron, Nitran, Wolfex.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE AND WHEN HEATED. Extremely flammable and explosive, prepared with xylene. May explode in fire. Can react with oxidizing materials. Containers may explode in fire. Highly toxic by ingestion, inhalation or skin absorption. Short exposure may cause death or permanent injury. See parathion. TLV 10.2 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid or Solid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	MINERAL SPIRITS Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Petroleum spirits; Mineral spirits, 360° end point.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. TLV 100 ppm.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 1313-27-5	MOLYBDIC TRIOXIDE	
SYNONYMS	Molybdenum trioxide, molybdenum anhydride, molybdic oxide, molybdic acid anhydride	
SAFETY MEASURES		
HAZARDS	Molybdic compounds have mild irritant and slight chronic toxicity by inhalation. TLV 15 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 75-45-6	MONOCHLORODIFLUOROMETHANE Colorless, liquefied compressed gas; faint odor.	
SYNONYMS	Freon-22, Genetron 22, Isotron-22, Uconn-22, chlorodifluoro methane, difluorochloromethane.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Weakly flammable. POISONOUS GASES OF PHOSGENE AND FLUORINE ARE PRODUCED WHEN HEATED. Moderately toxic by inhalation. See phosgene and fluorine.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose, and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 141-43-5	MONOETHANOLAMINE	
SYNONYMS	2-aminoethanol, beta-aminoethyl alcohol, 2-hydroxyethylamine, ethanolamine, Calamine.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus. Do not use rubber or copper materials.	
HAZARDS	Moderately flammable. Can react with oxidizing materials. Emits toxic vapors when heated to decomposition. Hazardous by ingestion or inhalation. TLV 0.5 ppm of air; 1-mg/m³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. INDUCE VOMITING AS QUICKLY AS POSSIBLE. CALL FOR MEDICAL AID.	

CAS No. 75-04-7	MONOETHYLAMINE Colorless, liquid; strong ammonia odor.	
SYNONYMS	Ethylamine, aminoethane.	
SAFETY MEASURES	Avoid contact with liquid. Wear full-protective clothing.	
HAZARDS	Highly flammable. Dangerous when exposed to heat or flame. Flashback along vapor trail may occur. Can react vigorously with oxidizing materials. Highly toxic. Strong irritant to eyes, skin and respiratory tract. TLV 20 ppm in air; 46 mg/m³ of air.	
EXPOSURE	Liquid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. If in eyes, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 73-96-6	MONOISOPROPANOLAMINE Colorless, thick liquid; slight ammonia odor.	
SYNONYMS	Isopropanolamine, 1-amino-2-propanol, 2-hydroxypropylamine, MIPA, alpha-aminoisopropyl alcohol.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Flammable. Can react with oxidizing materials. Irritant. Amines are generally caustic with moderate-to-high toxicity through ingestion or inhalation.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 74-89-5	MONOMETHYLAMINE	
SYNONYMS	Amino methane, methylamine.	
SAFETY MEASURES		
HAZARDS	Highly flammable. Vapor forms explosive mixture with air. Explosive when exposed to heat or flame. Can react vigorously with oxidizing materials. Emits toxic fumes when heated to decomposition. A strong irritant. Corrosive to skin. TLV 10 ppm in air.	
EXPOSURE		

CAS No. 110-91-8	MORPHOLINE Colorless, oily liquid; fishy-ammonia odor.	
SYNONYMS	Tetrahydro-1,4-oxazine, tetrahydro-p-oxazine, diethylenimide oxide.	
SAFETY MEASURES	Avoid contact with liquid. Equipment should have no copper or copper alloy parts.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. When heated to decomposition, it emits highly toxic fumes of oxides of nitrogen. Can react with oxidizing materials. Corrosive to skin. Can be absorbed by the skin. Irritating to skin, eyes, and mucous membranes. TLV 20 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	MOTOR FUEL ANTIKNOCK COMPOUNDS WITH LEAD ALKYL Oily liquid, dyed red, orange or blue; fruity odor.	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Combustible. Container may explode when heated. POISONOUS GASES ARE PRODUCED IN FIRE. Vapors very toxic. Fatal lead poisoning may occur by ingestion, inhalation or skin absorption.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 300-76-5	NALED	
SYNONYMS	1,2-dibromo-2,2-dichloroethyl dimethyl phosphate.	
SAFETY MEASURES		
HAZARDS	May be toxic. See parathion. TLV 3 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

	NAPHTHA: COAL TAR TYPE Colorless-yellow watery liquid; gasoline-like odor.	
SYNONYMS	Naphtha, 49 ⁰ Ro.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Combustible. Can react with oxidizing materials. TLV 100 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	NAPHTHA STODDARD SOLVENT Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	Petroleum solvent, dry clear naphtha, spotting naphtha, white spirits, Varnoline, Safety solvent	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable when exposed to heat or flame. Explosive when exposed to flame. When heated to decomposition, it emits acrid fumes. Can react with oxidizing materials. TLV 500 ppm.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	NAPHTHA VM&P Colorless, watery liquid; gasoline-like odor.	
SYNONYMS	50° Flash, High Flash, Regular grades.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable when exposed to heat or flame. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Explosive when exposed to heat or flame. Can react vigorously with oxidizing materials.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea and vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	NAPHTHENIC ACID(S) Odorless crystals to dark foul sludges.	
SYNONYMS	Hexahydrobenzoic acid, cyclohexane carbarylic acid, cyclo-alkyl fatty acid mixture.	
SAFETY MEASURES		
HAZARDS	Flammable when exposed to flame. Can react with oxidizing materials. Moderate to high aquatic toxicity.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 373-02-4	NICKEL ACETATE Green prisms.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See nickel compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 27635-46-7	NICKEL AMMONIUM SULFATE	
SYNONYMS	Ammonium nickel sulfate, ammonium disulfatonickelate.	
SAFETY MEASURES		
HAZARDS	Flammable. Can release ammonia gas. Mild irritant and allergen. Slightly toxic by ingestion or inhalation. See nickel compounds and sulfates. TOXIC TO AQUATIC ORGANISMS IN LOW CONCENTRATIONS.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13462-00-9	NICKEL BROMIDE Yellowish-brown crystals.	
SYNONYMS	Nickelous bromide.	
SAFETY MEASURES		
HAZARDS	See nickel compounds and bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS no. 13463-39-3	NICKEL CARBONYL Colorless, volatile liquid or needles.	
SYNONYMS	Nickel tetracarbonyl.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Wear chemical protective-suit and self-contained breathing apparatus.	
HAZARDS	Flammable when exposed to heat or flame. Explosive when exposed to heat or flame. When in contact with acid or acid fumes, or when heated, it emits highly toxic fumes. It can react with oxidizing materials. Highly toxic by inhalation or ingestion. May be a carcinogen. TLV 0.001 ppm in air; 0.007 mg/m³ of air.	
EXPOSURE	If inhaled, will cause dizziness, nausea, headache, vomiting, fever and difficult breathing. Move to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. CALL FOR MEDICAL AID.	

CAS No. 7713-54-9	NICKEL CHLORIDE Yellow scales or green crystals.	
SYNONYMS	Nickelous chloride.	
SAFETY MEASURES		
HAZARDS	Nonflammable. When heated to decomposition, it emits toxic chlorides. Mild irritant and allergen. Slight toxic action. See nickel compounds and chlorides. TOXIC TO AQUATIC LIFE IN LOW CONCENTRATIONS.	
EXPOSURE	CALL FOR MEDICAL AID.	

	NICKEL COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Development of "nickel itch" dermatitis. Most salts of nickel are generally considered NOT to cause systemic poisoning. If ingested, will cause giddiness and nausea. Inhalation of dust may cause pneumonitis and pulmonary edema. TLV 1 mg/m³ of air (for metal and insoluble compounds). TOXIC TO AQUATIC LIFE IN LOW CONCENTRATIONS.	
EXPOSURE		

CAS No. 10029-12-9	NICKEL FLUORIDE Green crystals.	
SYNONYMS	Nickel difluoride.	
SAFETY MEASURES		
HAZARDS	See fluoride and nickel compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 15843-02-4	NICKEL FORMATE Green crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	When heated, emits acrid fumes. See nickel compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 12054-43-7	NICKEL HYDROXIDE Odorless pale green, crystals or amorphous.	
SYNONYMS	Nickelous hydroxide, nickelic hydroxide.	
SAFETY MEASURES		
HAZARDS	See nickel compounds.	
EXPOSURE	 CALL FOR MEDICAL AID.	

CAS No. 13462-90-3	NICKEL IODIDE Black crystals.	
SYNONYMS	Nickelous Iodide.	
SAFETY MEASURES		
HAZARDS	Toxic by ingestion. See nickel compounds and iodides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 13138-45-9	NICKEL NITRATE Green crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Strong oxidizing agent. Dangerous fire hazard. Explosive as dust. May explode when shocked or heated. Increases flammability of any flammable substance. Yields gases of oxides of nitrogen in fire. Can cause intestinal damage. See nickel compounds and nitrates. TLV 1 mg/m³ of air.	
EXPOSURE		

CAS No. 13637-71-3	NICKEL PERCHLORATE Hexagonal, green needles.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Powerful oxidizer. Is an explosive. When heated, emits highly toxic fumes of chlorides. Irritating to skin and mucous membranes. See nickel compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

	NITRATES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Moderately flammable by spontaneous chemical reaction. Powerful oxidizing agents. Nitrates may explode when shocked, when exposed to heat or flame, or by spontaneous chemical reaction. All inorganic nitrates act as oxygen carriers. On decomposition, they emit toxic fumes. Will cause violent reactions with reducing materials. If ingested, may lead to dizziness, abdominal cramps, vomiting, bloody diarrhea, weakness, convulsions and collapse.	
EXPOSURE		

CAS No. 7697-37-2	NITRIC ACID Colorless-brown watery liquid; choking odor.	
SYNONYMS	Aqua fortis, hydrogen nitrate, azotic acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective clothing and self-contained breathing apparatus.	
HAZARDS	Moderately flammable by chemical reaction with reducing agents. Is a powerful oxidizing agent. Flammable gas may be formed in contact with metals. Poisonous gases are produced of oxides of nitrogen and hydrogen nitrate when heated. Will react with water or steam to produce heat and toxic and corrosive fumes. Corrosive to tissues. Highly toxic by ingestion, inhalation, and skin absorption. Ingestion causes burning of inner tissues, abdominal tenderness, shock and death. TLV 2 ppm in air or 5 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> Will burn eyes, nose and throat. If inhaled, will cause difficult breathing and loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	NITRILES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Nitriles are organic cyanides. Acrylonitrile, propionitrile and others resemble cyanides in toxicity. Cyanamides and cyanates have no cyanide effect. When heated to decomposition, they emit highly toxic cyanide fumes. See cyanides.	
EXPOSURE		

CAS No. 93-95-3	NITROBENZENE Yellow-brown oily liquid; shoe polish odor.	
SYNONYMS	Nitrobenzol, oil of mirbane.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Flammable when exposed to heat or flame. POISONOUS VAPOR IS PRODUCED WHEN HEATED. Vapor forms explosive mixtures with air. Mild eye irritant. Fatal amounts may be taken by inhalation, ingestion, or skin absorption. TLV 1 ppm in air; 5 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 10102-44-0	NITROGEN DIOXIDE	
SYNONYMS	Nitrogen peroxide, nitrogen dioxide, red oxide of nitrogen, dinitrogen tetroxide.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Equipment should be resistant to nitric acid corrosion.	
HAZARDS	Non-flammable. May cause fire and explode with combustibles. POISONOUS GASES ARE PRODUCED IN FIRE AND WHEN HEATED. Will react with water or steam to produce corrosive liquids. Can react strongly with reducing materials. Highly toxic. Strong irritant. Inhalation may be fatal. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	NITROGEN OXIDES	
SYNONYMS	Various mixtures of nitrogen oxides, dioxides, and trioxides.	
SAFETY MEASURES		
HAZARDS	When heated, they evolve highly toxic fumes. Will react with water or steam to produce heat and corrosive nitric acid. Can react vigorously with reducing materials. Concentrations of 100 to 150 ppm of nitrogen oxide fumes are dangerous for short exposures of 30 to 60 minutes. Higher concentrations may be fatal after very short exposures.	
EXPOSURE		

CAS No. 25154-55-6	NITROPHENOL	
SYNONYMS	para-Nitrophenol.	
SAFETY MEASURES	Wear full protective clothing.	
HAZARDS	Flammable when exposed to heat or flame. POISONOUS FUMES OF OXIDES OF NITROGEN ARE PRODUCED WHEN HEATED. Highly toxic by ingestion, inhalation or skin absorption. Inhalation hazard only in association with heat.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 2696-92-6	NITROSYL CHLORIDE Orange-red, liquefied compressed gas; choking odor.	
SYNONYMS	Nitrogen oxychloride.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Non-flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED. See chlorides and nitrogen oxides. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 28473-21-4	NONANOL Colorless liquid; rose or fruity odor.	
SYNONYMS	1-Nonanol, nonylalcohol, octyl carbinol.	
SAFETY MEASURES		
HAZARDS	Combustible.	
EXPOSURE	Liquid Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 27215-95-8	NONENE Colorless, liquid; gasoline-like odor.	
SYNONYMS	Propylene trimer.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Moderately toxic by inhalation.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 124-11-8	1-NONENE Colorless liquid; gasoline-like odor.	
SYNONYMS	1-nonylene, n-heptyl ethylene.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 25154-52-3	NONYL PHENOL Straw yellow, thick liquid; medicinal odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid. Wear rubber overclothing (including gloves), and self-contained breathing apparatus.	
HAZARDS	Flammable. Can react with oxidizing materials. Phenols in general are highly toxic by ingestion, inhalation, and skin absorption.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 111-66-0	1-OCTENE Colorless liquid; gasoline-like odor.	
SYNONYMS	Caprylene, alpha-octylene.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Moderate inhalation hazard.	
EXPOSURE	Vapor If inhaled, will cause dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: CRUDE Dark oily liquid; acrid odor.	
SYNONYMS	Petroleum earth oil, seneca oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. Flammable vapor may be produced. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose and throat. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

	OILS: DIESEL Yellow-brown oily liquid; fuel oil odor	
SYNONYMS	Fuel oil 1-D, Fuel oil 2-D, Fuel oil 4-D.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. HAZARDOUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, ABSORPTION Colorless to yellow liquid; fuel oil odor.	
SYNONYMS	Absorbent oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, COAL TAR Colorless to yellow liquid; pleasant odor.	
SYNONYMS	Light oil.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, MINERAL SEAL Colorless-yellow oily liquid; kerosene odor.	
SYNONYMS	Longtime burning oil, 300° oil, Mineral colza oil, Signal oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, MOTOR Yellow-brown oily liquid; lube oil odor.	
SYNONYMS	Crankcase oil, lubricating oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, PENETRATING Yellow oily liquid; motor oil odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.	
	CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, RANGE Colorless, watery liquid; kerosene odor.	
SYNONYMS	Kerosine, Kerosene, Fuel oil No. 1, JP-1.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, RESIN Amber-red-black liquid; pitch odor.	
SYNONYMS	Rosin oil, Petinol, Rosinol, Codoil	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, SPINDLE Brown oily liquid; kerosene odor.	
SYNONYMS	High-speed bearing oil, bearing oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, ROAD Black oily liquid; tar odor.	
SYNONYMS	Slow-curing asphalt, Petroleum asphalt, Liquid asphalt.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OILS: MISCELLANEOUS, TRANSFORMER Colorless-brown oily liquid; motor oil odor.	
SYNONYMS	Insulating oil, electrical insulating oil, petroleum insulating oil.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 8014-95-7	OLEUM Colorless-brown oily liquid; choking odor.	
SYNONYMS	Fuming sulfuric acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND MIST. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Dangerously flammable by chemical reaction with reducing agents and carbohydrates. May cause fire on contact with combustibles. Flammable gas may be produced on contact with metals. Highly explosive by chemical reaction with moisture and some organics. Will produce heat, toxic and corrosive fumes when reacting with water or steam. When heated to decomposition, emits highly toxic fumes of oxides of sulfur. TLV 1 mg/m ³ of air.	
EXPOSURE	<u>Mist</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration (NOT MOUTH-TO-MOUTH). If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	OXALATES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Oxalates are corrosive and produce local irritation. When taken by mouth they have a caustic effect on the mouth, esophagus and stomach. The soluble oxalates are readily absorbed from the gastrointestinal tract and can cause severe damage to the kidneys. When heated to decomposition, they emit toxic fumes.	
EXPOSURE		

CAS No. 144-62-7	OXALIC ACID Odorless, white solid crystals.	
SYNONYMS	Ethanedioic acid.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible solid. Poisonous gases are produced in fire. Strong irritant. Highly toxic by ingestion or inhalation. If swallowed, death may follow quickly. TLV 1 mg/m ³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Will burn eyes, nose and throat. If inhaled, will cause difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Will burn skin and eyes. If swallowed, will cause nausea or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 30525-89-4	PARAFORMALDEHYDE White powder; irritating odor.	
SYNONYMS	Polyformaldehyde, polyoxymethylene, paraform, formaldehyde polymer, trioxymethylene, trioxane.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Flammable when exposed to heat or flame. Vapor or dust may form explosive mixtures with air. Releases flammable and toxic formaldehyde vapors. When heated, it forms formaldehyde gas and oxides of carbon. Can react with oxidizing materials. Highly toxic by ingestion. Moderately toxic by inhalation. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 56-33-2	PARATHION Yellowish liquid.	
SYNONYMS	O,o-diethyl-O-nitrophenyl thiophosphate.	
SAFETY MEASURES	AVOID ALL CONTACT. Wear chemical-protective clothing, self-contained breathing apparatus, and gloves.	
HAZARDS	Non-flammable unless in solvent. When heated to decomposition, can emit additional toxic fumes of oxides of nitrogen, phosphorus and sulfur. Readily absorbed by the skin. May cause death or permanent injury after short exposure to small quantities. Toxic by ingestion, inhalation, or skin absorption. TLV 0.1 ppm.	
EXPOSURE	<u>Vapor</u> If inhaled, may cause blurred vision, nausea, general weakness, and difficulty in breathing. Move to fresh air. GIVE VICTIM TWO ATROPINE TABLETS <u>AT ONCE</u>. DO NOT WAIT FOR DOCTOR. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Contact with skin may cause blurred vision, nausea, general weakness and difficulty in breathing. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. GIVE VICTIM TWO ATROPINE TABLETS <u>AT ONCE</u>. DO NOT WAIT FOR DOCTOR. CALL FOR MEDICAL AID.	

CAS No. 87-86-5	PENTACHLOROPHENOL White to brown beads or flakes.	
SYNONYMS	Penta, Santophen 20, Dowicide 7.	
SAFETY MEASURES	Avoid contact with dust and solid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Not flammable. When heated to decomposition, it emits highly toxic fumes of chlorides. Strong irritant. Highly toxic by all routes. Can be absorbed by the skin. Dust can cause convulsions or death. Can damage lungs, liver and kidneys. TLV 0.5 milligrams per cubic meter of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 2765-11-9	PENTADECANOL Colorless liquid; alcohol odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible. May be inhalative hazard. HARMFUL TO FISH AND WATERFOWL.	
EXPOSURE	Liquid Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 109-66-0	PENTANE Colorless liquid; gasoline odor.	
SYNONYMS	Amyl Hydride	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Containers may explode when heated. Vapor may explode if ignited in an enclosed area. Flammable vapor is produced. Highly explosive when exposed to heat or flame. May be narcotic in high concentrations. Slight inhalation hazard. TLV 500 ppm in air.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 109-67-1	1-PENTENE Colorless liquid; gasoline odor.	
SYNONYMS	Amylene, propylethylene, alpha-n-amylenes, methyl butene.	
SAFETY MEASURES	Avoid contact with vapor. Stay upwind.	
HAZARDS	Highly flammable when exposed to heat or flame. Explosive when exposed to flame. Flashback along vapor trail may occur. Containers may explode when heated. Vapor may explode if ignited in an enclosed area. Flammable vapor is produced. May react with oxidizing materials. When heated to decomposition, it emits toxic fumes. Moderately hazardous via all routes. Can be absorbed by the skin. Narcotic in high concentrations. TLV 1000 ppm in air, 2950 mg/m³ of air.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	PETROLATUM Thick liquid; brown, green, amber, white.	
SYNONYMS	Petroleum jelly.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Combustible.	
EXPOSURE	<u>Liquid</u> Irritating to eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

	PETROLEUM NAPTHA Colorless liquid; gasoline-like odor.	
SYNONYMS	Petroleum solvent, petroleum spirit, petroleum benzine, light ligroin, petroleum ether.	
SAFETY MEASURES	Avoid contact with liquid or vapor. Stay upwind.	
HAZARDS	Flammable, volatile liquid. Explosive when exposed to heat or flame. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose and throat. If inhaled, may cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 108-95-2	PHENOL	
SYNONYMS	Carbolic acid, hydroxybenzene, phenic acid, phenylic acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND SOLID. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Equipment should not have exposed rubber, aluminum, zinc, lead, or alloy parts.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Fumes may react with oxidizing materials. POISONOUS. Causes severe tissue burns. Lethal amounts may be ingested, inhaled or absorbed by the skin. TLV 5 ppm in air (skin absorption). HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid or Solid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7786-34-7	PHOSDRIN Crystals.	
SYNONYMS	2-carbomethoxy-1-methyl vinyl dimethylphosphate, Mevinphos.	
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition, emits highly toxic fumes. Highly toxic by ingestion, inhalation, and skin absorption. Small doses of phosdrin can cause death or permanent injury. See parathion. TLV 0.1 mg/m³ of air.	
EXPOSURE		

CAS No. 75-44-5	PHOSGENE Liquefied compressed gas or yellow liquid.	
SYNONYMS	Carbonyl chloride, carbon oxychloride, chloroformyl chloride.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Non-combustible. POISONOUS GASES ARE PRODUCED WHEN HEATED. In presence of moisture, decomposes to form hydrochloric acid and carbon monoxide. Strong irritant. Highly toxic by inhalation. 50 ppm is rapidly fatal. No immediate warning that dangerous amounts of phosgene are being inhaled. TLV 0.1 ppm in air; 4 mg/m³ of air.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes, nose and throat. EFFECTS MAY BE DELAYED. Move to fresh air. If breathing has stopped, give artificial respiration (BUT NOT MOUTH-TO-MOUTH). If breathing is difficult, give oxygen. Maintain absolute rest until medical aid arrives. CALL FOR MEDICAL AID.	

CAS No. 7303-51-2	PHOSPHINE Colorless gas.	
SYNONYMS	Hydrogen phosphide, phosphoretted hydrogen.	
SAFETY MEASURES	Wear goggles, full protective clothing, and self-contained breathing apparatus.	
HAZARDS	Flammable by spontaneous chemical reaction. Explosive when exposed to flame. When heated to decomposition, emits highly toxic fumes of oxides of phosphorus. Reacts vigorously with oxidizing materials. Highly toxic gas. Strong irritant. TLV 0.05 ppm in air.	
EXPOSURE	Inhalation of phosphine causes restlessness followed by tremors, fatigue, nausea, vomiting, frequently severe gastric pain and diarrhea, often headache, thirst, and dizziness. CALL FOR MEDICAL AID.	

CAS No. 7664-33-2	PHOSPHORIC ACID	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Non-flammable. Flammable gas is formed on contact with metals. When heated to decomposition, emits toxic fumes of oxides of phosphorus. TLV 1 mg/m ³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid Will burn skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	PHOSPHORUS COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity varies. Most inorganic phosphates, except phosphine, have low toxicity but in large doses they may cause serious disturbances.	
EXPOSURE		

CAS No. 10025-87-3	PHOSPHORUS OXYCHLORIDE Colorless-yellow oily liquid; musty odor.	
SYNONYMS	Phosphoryl chloride.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective suit and self-contained breathing apparatus. Equipment must be acid-resistant.	
HAZARDS	Non-flammable corrosive liquid. When heated to decomposition, emits highly toxic fumes of chlorides and oxides of phosphorus. Will react violently with water to produce heat and toxic and corrosive fumes. Inhalation may cause pulmonary edema. Highly toxic by ingestion or inhalation. See hydrochloric acid. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Vapor Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Harmful if swallowed. Remove to fresh air. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 10026-13-0	PHOSPHORUS PENTACHLORIDE Yellowish-white, fuming crystalline mass.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Moderate fire hazard by chemical reaction. Reacts violently with moisture. When heated to decomposition, emits highly toxic fumes of chlorides. Will react with water or steam to produce heat and toxic, corrosive fumes. TLV 1 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7647-19-0	PHOSPHORUS PENTAFLUORIDE Colorless gas.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. Dangerous when heated to decomposition, it emits highly toxic fumes of fluorine and phosphorus compounds. Will react with water or steam to produce toxic and corrosive fumes. Highly toxic. Strong irritant to eyes and skin. See fluorides. TLV 1 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1314-80-3	PHOSPHORUS PENTASULFIDE Yellow-green flakes or powder; odorless	
SYNONYMS		
SAFETY MEASURES	Avoid contact with solid and dust. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. MAY BE IGNITED BY SPARK, FRICTION OR STATIC DISCHARGE. Containers may explode in fire. POISONOUS, IRRITATING GASES ARE PRODUCED IN FIRE. Will react with water, steam or acids to produce toxic and flammable vapors. Can react vigorously with oxidizing materials. TLV 1 mg/m ³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 7723-14-0	PHOSPHORUS, RED Odorless red-brown solid powder.	
SYNONYMS	Amorphous phosphorus.	
SAFETY MEASURES	AVOID CONTACT WITH SOLID. Wear rubber overclothing (including gloves).	
HAZARDS	Highly flammable when exposed to heat or by chemical reaction with oxidizers. POISONOUS, IRRITATING AND FLAMMABLE GASES ARE PRODUCED IN FIRE. Explosive by chemical reaction or on contact with organic compounds. Reacts with oxygen and water vapor to emit phosphine. When heated to decomposition, emits highly toxic fumes of oxides of phosphorus. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Will burn eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7719-12-2	PHOSPHORUS TRICHLORIDE Colorless to yellow liquid; irritating odor.	
SYNONYMS	Phosphorus chloride.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Non-flammable. Moderate danger through chemical reactions. When heated to decomposition, emits toxic fumes of chlorides and oxides of phosphorus. Will react with water, steam or acids to produce heat and toxic or corrosive fumes. Will react violently when brought into contact with water causing flash fires. Highly irritating and corrosive to skin and mucous membranes. TLV 0.5 ppm in air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Poisonous if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7723-14-0	PHOSPHORUS, WHITE Yellow waxy solid; garlic odor.	
SYNONYMS	Yellow phosphorus.	
SAFETY MEASURES	Avoid contact with solid. Wear rubber clothing (including gloves) and self-contained breathing apparatus.	
HAZARDS	Highly flammable. May ignite on contact with air. POISONOUS, IRRITATING GASES OF OXIDES OF PHOSPHORUS ARE PRODUCED IN FIRE. Reacts vigorously with oxidizing materials. Vapors of burning phosphorus may cause severe injury or death. TLV 0.1 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Will burn skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 85-44-9	PHthalic ANHYDRIDE Colorless-yellow flakes or liquid; choking odor.	
SYNONYMS	PAN, phthalic acid anhydride, phthalandione.	
SAFETY MEASURES	Avoid contact with liquid. Wear rubber overclothing (including gloves).	
HAZARDS	Flammable. Reacts with oxidizing materials. Explosive in the form of dust when exposed to flame. When heated, emits acrid fumes. Mild irritant. Slight ingestive and inhalative hazard. Will cause acid burns with moist skin. TLV 2 ppm in air.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. If inhaled will cause coughing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid or Solid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 9003-29-6	POLYBUTENE Colorless, odorless oily liquid.	
SYNONYMS	Polyisobutylene waxes, butene resins.	
SAFETY MEASURES		
HAZARDS	Combustible.	
EXPOSURE	Not harmful.	

	POLYCHLORINATED BIPHENYLS White powder or yellow oily liquid.	
SYNONYMS	PCB, chlorinated biphenyl, Arochlor.	
SAFETY MEASURES	Avoid contact with liquid and solid.	
HAZARDS	Combustible. When heated to decomposition, emits toxic vapors. Strong irritant. Highly toxic by ingestion, inhalation, or skin absorption. Causes liver damage and skin changes. TLV 0.5 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Liquid or Solid</u> Irritating to eyes and skin. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7734-41-0	POTASSIUM ARSENATE Colorless crystals.	
SYNONYMS	Potassium dihydrogen arsenate, Macquer's salt.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition or on contact with acids or acid fumes, emits highly toxic fumes of arsenic. Highly toxic by ingestion and inhalation. Strong irritant. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10124-50-2	POTASSIUM ARSENITE White powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion and inhalation. Strong irritant. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7773-50-9	POTASSIUM BICHROMATE Odorless, red-to-orange crystals.	
SYNONYMS	Potassium dichromate, bichrome red, potassium chromate.	
SAFETY MEASURES	Avoid contact with solid and dust.	
HAZARDS	Non-flammable. May cause fire on contact with combustibles or oxidizing materials. Powerful oxidizer. Highly toxic by ingestion or inhalation. Chromium compounds have been associated with cancer of the lungs. Direct contact will cause destruction of the mucous membranes. See chromium compounds and dichromates. TLV 0.1 mg/m ³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. If inhaled, will cause difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solids</u> Will burn skin and eyes. If swallowed, will cause nausea, vomiting, or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 151-50-8	POTASSIUM CYANIDE White crystals; almond odor.	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH DUST, SOLID AND WATER SOLUTION. Wear chemical-protective suit and self-contained breathing apparatus.	
HAZARDS	Non-flammable. On contact with acids, releases highly flammable and poisonous gas of HYDROGEN CYANIDE. Extremely poisonous. Toxic by ingestion or inhalation. Hydrogen cyanide gas is toxic by all routes. TLV 5 mg/m ³ c.i. air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATION.	
EXPOSURE	Dust POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Solid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Irritating to eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 1310-58-3	POTASSIUM HYDROXIDE Odorless, white crystals or watery liquid.	
SYNONYMS	Potassium hydrate, lye.	
SAFETY MEASURES	Avoid contact with liquid, solid, vapor and dust. Wear rubber overclothing (including gloves). Breathing apparatus must be worn in closed quarters or high concentrations.	
HAZARDS	Non-flammable. May cause fire on contact with moisture and flammables. Flammable hydrogen gas can be produced on contact with metals. Inhalation of dust or mist can damage respiratory tract extensively and may be fatal. Severe eye hazard. Solid or liquid destroys tissue on contact. Highly poisonous by ingestion or inhalation. TLV 2 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust or Mist</u> Irritating to eyes, nose and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7681-11-0	POTASSIUM IODIDE Odorless white crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. Emits toxic iodides when heated to decomposition. Moderate ingestive and inhalative hazard. See iodides.	
EXPOSURE	Solid Harmful if swallowed. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7722-64-7	POTASSIUM PERMANGANATE Odorless dark purple crystals.	
SYNONYMS	Chameleon-mineral.	
SAFETY MEASURES	Avoid contact with solid and dust.	
HAZARDS	Non-flammable. Containers may explode in fire. May cause fire and explode on contact with combustibles. Reacts violently with easily oxidized substances. Powerful oxidizing agent. Spontaneously flammable on contact with glycerine and ethylene glycol. Strong irritant in high concentrations. Highly toxic by ingestion and inhalation. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 74-98-6	PROPANE Colorless liquefied compressed gas.	
SYNONYMS	Dimethyl methane.	
SAFETY MEASURES	Stay upwind.	
HAZARDS	Highly flammable. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Narcotic in high concentrations. TLV 1000 ppm.	
EXPOSURE	<u>Vapor</u> Not irritating to eyes, nose, and throat. If inhaled, will cause dizziness, difficult breathing, or loss of consciousness. Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> May cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 123-36-6	PROPIONALDEHYDE Colorless liquid; suffocating odor.	
SYNONYMS	Propyl aldehyde, propionic aldehyde, methyl acetaldehyde, propanal, propylic aldehyde.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Flammable irritating vapor is produced when in contact with water. Reacts with oxidizing agents. Irritant. Moderate hazard through inhalation and skin absorption.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause nausea or vomiting. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 79-09-4	PROPIONIC ACID Colorless liquid; sharp rancid odor.	
SYNONYMS	Propanoic acid, ethanecarboxylic acid, methyl acetic acid.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Combustible at high temperatures or pressures. When heated, emits acrid fumes. Severe eye and skin irritant. Slight ingestive hazard. Low toxicity. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. Move to fresh air. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 123-62-6	PROPIONIC ANHYDRIDE Propanoic anhydride.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Combustible liquid. Vapor forms explosive mixtures with air. May react with oxidizing materials. Reacts with water to form propionic acid. Irritant. Slight ingestive toxicity. See propionic acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 109-60-4	N-PROPYL ACETATE Colorless liquid; mild odor.	
SYNONYMS	Acetic acid n-propyl ester.	
SAFETY MEASURES	Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Narcotic in high concentrations. Irritating to skin and mucous membranes. Moderately toxic via all routes. Can be absorbed by the skin.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, dizziness, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 71-23-8	N-PROPYL ALCOHOL Colorless liquid; alcohol odor.	
SYNONYMS	1-propanol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing agents. Flammable irritating vapor is produced when mixed with water. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, dizziness, or headache. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink plenty of water or milk. CALL FOR MEDICAL AID.	

CAS no. 115-07-1	PROPYLENE Colorless liquefied compressed gas; mild odor.	
SYNONYMS	Propene, methylethylene.	
SAFETY MEASURES	Avoid contact with liquid. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Flammable, visible vapor cloud is produced when mixed with water. May explode if ignited in an enclosed area. Containers may explode in fire. Reacts vigorously with oxidizing materials. Simple asphyxiant. No irritating effects from high concentrations in gaseous forms. TLV 2-11% in air.	
EXPOSURE	Vapor If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 57-55-6	PROPYLENE GLYCOL Odorless, colorless thick liquid.	
SYNONYMS	1,2-propanediol, 1,2-dihydroxypropane, methylene glycol, methyl glycol.	
SAFETY MEASURES		
HAZARDS	Flammable. Explosive when exposed to flame. May react with oxidizing materials. Mild irritant. Allergen. Slight ingestive hazard. Slight local irritant.	
EXPOSURE		

CAS No. 28677-93-2	PROPYLENE GLYCOL METHYL ETHER Colorless liquid; mild odor.	
SYNONYMS	Propylene glycol monoethyl ether, 1-methoxy-2-propanol Dowanol PM, Dowanol 33B, UCAR	
SAFETY MEASURES		
HAZARDS	Highly flammable. May react with oxidizing materials. TLV 100 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. <u>Liquid</u> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 75-56-9	PROPYLENE OXIDE Colorless liquid; sweet alcohol odor.	
SYNONYMS	Methyloxirane, propeneoxide, 1,2-epoxypropane.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Flammable irritating vapor is produced when mixed with water. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Highly explosive when exposed to flame. May react vigorously with oxidizing materials. Moderately hazardous by all routes. TLV 100 ppm in air; 240 mg/m ³ of air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause headache, nausea, vomiting, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 121-29-9	PYRETHRINS Viscous liquid.	
SYNONYMS	Pyrethrolone, ester of chrysanthemum, monocarborylic acids, Pyrethrin I or Pyrethrin II.	
SAFETY MEASURES		
HAZARDS	Slight fire hazard. Emits acrid fumes when heated. Pyrethrin II is less toxic than Pyrethrin I.	
EXPOSURE		

CAS No. 110-86-1	PYRIDINE Colorless to yellow liquid; nauseating odor.	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear chemical-protective suit with self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. EMITS HIGHLY TOXIC FUMES OF CYANIDES. Reacts vigorously with oxidizing materials. Mild irritant. Moderate ingestive hazard. Slight inhalative hazard. Can cause liver and kidney damage. TLV 5 ppm in air; 15 mg/m ³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Poisonous if inhaled or if skin is exposed. Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Poisonous if swallowed or if skin is exposed. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 37-66-1	PYROGALLIC ACID White lustrous crystals.	
SYNONYMS	Pyrogallol, trihydroxybenzene, 1,2,3-benzetriol.	
SAFETY MEASURES		
HAZARDS	Emits highly toxic fumes when heated. Highly toxic. Readily absorbed by the skin. If swallowed, will cause vomiting, diarrhea, kidney and liver damage.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS no. 91-22-5	QUINOLINE Colorless liquid; peculiar odor.	
SYNONYMS	Chinoline, Leukol, benzopyridine, benzazine.	
SAFETY MEASURES		
HAZARDS	Flammable. When heated to decomposition, it emits toxic fumes of nitrogen oxides. Highly toxic by ingestion or inhalation. See nitrogen oxide compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 108-46-3	RESORCINOL White crystals; turn pink on exposure to light.	
SYNONYMS	Resorcin, 1,3-benzenediol, m-dihydroxybenzene, 3-hydroxyphenol.	
SAFETY MEASURES		
HAZARDS	Flammable when exposed to heat or flame. Can react with oxidizing materials. Skin irritant. Can cause systemic poisoning. Hazardous to eyes. Can be absorbed by the skin if in a solvent. Can cause dermatitis.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7783-08-6	SELENIC ACID Colorless, hexagonal prisms.	
SYNONYMS	Selenious acid.	
SAFETY MEASURES		
HAZARDS	Flammable in form of dust when exposed to heat or flame. Flammable by chemical reaction with oxidizers. Highly toxic. Strong irritant to skin and membranes. See selenium compounds. TLV 0.2 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

	SELENIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Elemental selenium has low acute systemic toxicity, but dust or fumes can cause serious irritation of the respiratory tract. It is a suspected carcinogen. Hydrogen selenide is highly toxic and selenium oxychloride produces blisters. Some organoselenium compounds are highly toxic. Inorganic selenium compounds can cause dermatitis.	
EXPOSURE		

CAS No. 12610-39-0	SELENIUM OXIDE White-to-reddish powder or needles.	
SYNONYMS	Selenium dioxide, selenous acid anhydride, selenous anhydride.	
SAFETY MEASURES		
HAZARDS	Highly toxic by inhalation. Moderately toxic by ingestion and skin absorption. See selenium compounds. TLV 2 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS no. 7791-23-3	SELENIUM OXYCHLORIDE Colorless to yellowish liquid.	
SYNONYMS	Seleninyl chloride.	
SAFETY MEASURES		
HAZARDS	See selenium compounds and chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7761-33-8	SILVER NITRATE Odorless, colorless-to-grayish black crystals.	
SYNONYMS	Lunar caustic.	
SAFETY MEASURES	Avoid contact with dust and solid. Wear chemical-protective clothing and self-contained breathing apparatus. Wear goggles.	
HAZARDS	Non-flammable. Increases flammability of combustible materials. Powerful caustic. Toxic by ingestion or inhalation. Ingestion may cause death. TLV 0.01 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Solids</u> Irritating to skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7440-23-5	SODIUM Odorless, silver to grayish-white soft solid.	
SYNONYMS	Natrium.	
SAFETY MEASURES	AVOID CONTACT WITH SOLID. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Highly flammable. FIRE MAY START ON CONTACT WITH AIR. Flammable gas formed on contact with water or moisture. Highly explosive when exposed to moisture in any form. Evolves hydrogen when it decomposes. Emits toxic fumes when heated in air. Caustic to all tissues. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Solid Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7782-92-5	SODIUM AMIDE Odorless, colorless solid.	
SYNONYMS	Sodamide.	
SAFETY MEASURES	Avoid contact with liquid. Wear rubber overclothing (including gloves).	
HAZARDS	Highly flammable. POISONOUS GAS IS PRODUCED IN FIRE. Reacts violently with water. In the presence of moisture, liberates sodium hydroxide and ammonia. When heated to decomposition, emits highly toxic fumes of ammonia and sodium oxide. Can react with oxidizing materials. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Solid Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.	

CAS No. 7631-09-2	SODIUM ARSENATE Colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. Emits toxic vapors when heated or in contact with acid or acid fumes. Irritant and allergen. Highly toxic by ingestion or inhalation. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14060-30-9	SODIUM ARSENITE Colorless or grayish-white powder.	
SYNONYMS	Sodium meta arsenite.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion and inhalation. See arsenic compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1333-83-1	SODIUM BIFLUORIDE White powder.	
SYNONYMS	Sodium acid fluoride, sodium difluoride.	
SAFETY MEASURES		
HAZARDS	Highly toxic. Strong irritant to tissues. See fluorides and hydrofluoric acid. TLV 2.5 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7631-90-5	SODIUM BISULFITE White powder or granules; irritating odor.	
SYNONYMS	Sodium acid sulfite, sodium metabisulfite, sodium hydrogen sulfite.	
SAFETY MEASURES	Avoid contact with solid and dust.	
HAZARDS	Non-flammable. When heated to decomposition, emits toxic vapors. Can react with water, steam, or acids to produce corrosive and toxic materials. Moderately toxic by ingestion and inhalation. See sulfites. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Solid</u> Irritating to skin and eyes. Harmful if swallowed. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 1333-73-9	SODIUM BORATE White crystals.	
SYNONYMS	Sodium tetraborate.	
SAFETY MEASURES		
HAZARDS	Noncombustible. Emits toxic vapors and dust when heated to decomposition. Moderately toxic by ingestion or inhalation. Can be absorbed by the skin. See boron compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 16940-66-2	SODIUM BOROHYDRIDE Odorless, white powder or pellets.	
SYNONYMS	Borohydride.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear rubber overclothing (including gloves) and dust respirator.	
HAZARDS	Combustible. Flammable and explosive gas may be produced on contact with metals, acids, or when heated. Will react with water or steam to produce hydrogen and sodium hydroxide.	
EXPOSURE	Dust Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen Solid Irritating to skin and eyes. Harmful if swallowed or if skin is exposed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 124-65-2	SODIUM CACODYLATE White, amorphous powder.	
SYNONYMS	Sodium dimethyl arsenate, arsysodila.	
SAFETY MEASURES		
HAZARDS	Highly toxic by ingestion and inhalation. See arsenic compounds and cacodylic acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7775-09-9	SODIUM CHLORATE Odorless, colorless-to-pale yellow crystals.	
SYNONYMS	Chlorate of soda, soda chlorate.	
SAFETY MEASURES	Avoid contact with solid. Do not use leather shoes or gloves. Avoid greases or ointments which may form explosive mixtures with chlorates.	
HAZARDS	Non-flammable. CONTAINERS MAY EXPLODE IN FIRE. May cause fire on contact with combustibles. When heated to decomposition, emits toxic vapors. May cause explosions in presence of other materials. Mild irritant. Moderately toxic by ingestion or inhalation. See chlorates. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Solid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

	SODIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity is variable. Sodium ion is practically nontoxic. The toxicity of sodium compounds is frequently, though not always, due to the anion involved. The hydroxide is very corrosive, being strongly basic.	
EXPOSURE		

CAS No. 143-33-9	SODIUM CYANIDE White granules, flakes or lumps; almond odor.	
SYNONYMS		
SAFETY MEASURES	AVOID CONTACT WITH SOLID, DUST, AND SOLUTION. Wear chemical-protective suit with self-contained breathing apparatus. No smoking or eating allowed near discharge site because of potential of hydrogen cyanide vapors.	
HAZARDS	Non-flammable. Releases highly hazardous cyanides when heated to decomposition or on contact with acid or acid fumes. Highly poisonous. TLV 0.5 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Dust POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Solid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 13601-19-9	SODIUM FERROCYANIDE Odorless, yellow solid.	
SYNONYMS	Yellow prussate of soda.	
SAFETY MEASURES	Avoid contact with solid.	
HAZARDS	Non-flammable. Emits highly poisonous hydrogen cyanide on contact with acid or when heated to decomposition. Mild irritant.	
EXPOSURE	Solid Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 16721-30-5	SODIUM HYDROSULFIDE Colorless needles.	
SYNONYMS	Sodium bisulfide, sodium sulphydrate, sodium hydrogen sulfide.	
SAFETY MEASURES		
HAZARDS	Moderate fire hazard when exposed to flame. Hydrogen sulfide is released upon contact with acids or moisture. When heated to decomposition, emits highly toxic fumes of oxides of sulfur. Skin irritant. Corrosive and irritant through release of hydrogen sulfide if ingested. See sulfides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1310-73-2	SODIUM HYDROXIDE Odorless, white flakes or pellets.	
SYNONYMS	Lye, caustic soda, white caustic sodium hydrate.	
SAFETY MEASURES	Avoid contact with solid and dust. Wear rubber overclothing (including gloves). Equipment should not be made of soft iron, copper, tin, aluminum, zinc, or alloys.	
HAZARDS	Non-flammable. May cause fire on contact with combustibles. Flammable gas may be produced on contact with metals. Will react with water or steam to produce heat. Emits toxic dusts when heated to decomposition. Severe eye hazard. Solid or concentrated solution destroys tissue on contact. Inhalation of dust may seriously affect lungs. Will attack living tissues. TLV 2 mg/m ³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose and throat. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. <u>Solid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7601-52-9	SODIUM HYPOCHLORITE Green to yellow liquid; bleach odor.	
SYNONYMS	Clorox, liquid bleach.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Non-flammable. Flammable on contact with organic materials or reducing agents. Powerful oxidizer at higher temperatures: chlorine, then oxygen are evolved. Will react with water or steam to produce toxic or corrosive fumes. When in contact with acid or acid fumes, emits highly toxic fumes of chlorine and chlorides. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 124-41-1	SODIUM METHYLATE Sodium methoxide.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Moderately flammable when exposed to heat or flame. Decomposes in water to methanol and sodium hydroxide. When heated to decomposition, emits toxic dusts. See methanol and sodium hydroxide.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7632-00-0	SODIUM NITRITE White or yellowish crystals, sticks or powder.	
SYNONYMS	Diazotring salts, erintrit, soda niter, nitratine.	
SAFETY MEASURES		
HAZARDS	Violent combustion or explosion when in contact with easily oxidizable substances. Will ignite by friction when in contact with organic matter. Explodes when heated to temperature of 1000° F or in contact with cyanides. Yields toxic gaseous oxides of nitrogen when involved in fire. Highly toxic by ingestion or inhalation. See nitrites.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7553-79-4	SODIUM PHOSPHATE, DIBASIC	
SYNONYMS	Disodium hydrogen phosphate, DSP, disodium phosphate, disodium orthophosphate.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Emits toxic fumes when heated to decomposition. Low toxicity.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7558-80-7	SODIUM PHOSPHATE, MONOBASIC	
SYNONYMS	Sodium acid phosphate, sodium biphosphate, sodium orthophosphate, MSP, sodium dihydrogen phosphate, monosodium phosphate.	
SAFETY MEASURES		
HAZARDS	Non-flammable. Low toxicity.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7601-54-9	SODIUM PHOSPHATE, TRIBASIC	
SYNONYMS	TSP, trisodium orthophosphate, trisodium phosphate, tertiary sodium phosphate.	
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition, emits highly toxic fumes of oxides of phosphorus. A strong caustic material. Moderately toxic by ingestion. Irritating to tissues.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10102-12-3	SODIUM SELENITE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Flammable in form of dust when exposed to heat or flame or by chemical reaction with oxidizers. Dust effects respiratory system. Emits toxic dusts when heated to decomposition. Highly toxic by ingestion. Moderately toxic by all routes. Can be absorbed by the skin. See selenium compounds. TLV 0.1 mg/m³ of air.	
EXPOSURE		

CAS no. 1344-09-8	SODIUM SILICATE Odorless, colorless, thick liquid.	
SYNONYMS	Soluble glass, water glass.	
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition, emits toxic dusts. Caustic irritant. Slight ingestive hazard. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 1313-82-2	SODIUM SULFIDE Yellow to red flakes; rotten eggs odor.	
SYNONYMS	Sodium monosulfide, sodium sulfuret.	
SAFETY MEASURES	Avoid contact with solid and dust. WEAR GOGGLES, SELF-CONTAINED BREATHING APPARATUS AND RUBBER OVERCLOTHING (INCLUDING GLOVES).	
HAZARDS	Combustible. POISONOUS HYDROGEN SULFIDE GAS MAY BE PRODUCED IN FIRE. Flammable, poisonous gas is formed on contact with acids, water, or steam. Reacts violently with oxidizing materials. May explode upon rapid heating and shock. Liberates toxic hydrogen sulfide gas on contact with skin. Irritant. See hydrogen sulfide. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust</u> Irritating to eyes, nose, and throat. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. <u>Solid</u> Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 10579-83-6	SODIUM SULFITE Colorless, odorless solid.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Non-flammable. When heated to decomposition, emits toxic vapors of sulfur dioxide. Can react with water, steam or acid to produce toxic and corrosive material. Moderately toxic by ingestion or inhalation. Ingestion can irritate the stomach by producing sulfurous acid. See sulfites. DA DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Solid If swallowed, may cause loss of consciousness. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 50-70-4	SORBITOL Colorless, odorless liquid.	
SYNONYMS	Sorbol, Sorbit, 1,2,3,4,5,6-hexanehexol, D-glucitol, D-sorbite, D-sorbitol, hexahydric alcohol.	
SAFETY MEASURES		
HAZARDS	Combustible. Dangerous to aquatic life in high concentrations.	
EXPOSURE	Liquid Will burn skin and eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 7783-47-3	STANNOUS FLUORIDE White lustrous crystalline powder.	
SYNONYMS	Tin fluoride, tin bifluoride.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition or on contact with acid, emits highly toxic fumes. Highly toxic. See fluorides. TLV 2 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7789-06-2	STRONTIUM CHROMATE Yellow crystals.	
SYNONYMS	Strontium dichromate.	
SAFETY MEASURES		
HAZARDS	Highly corrosive on contact with skin and tissues. See chromium compounds. TLV 0.1 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 100-42-5	STYRENE Colorless to yellow liquid; sweet odor.	
SYNONYMS	Phenylethylene, styrol, vinylbenzene, polystyrene, cinnamene.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective suit with self-contained breathing apparatus.	
HAZARDS	Highly flammable. CONTAINERS MAY EXPLODE IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Flammable, irritating vapor is produced on contact with water. Reacts vigorously with oxidizing materials. When heated to decomposition, emits acrid fumes. Severe eye injuries. Respiratory irritant. Moderately toxic by ingestion or inhalation. TLV 100 ppm in air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

	SULFATES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity is variable. Dangerous when heated to decomposition, they emit highly toxic fumes of sulfur oxides.	
EXPOSURE		

	SULFIDES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity is variable. The alkaline sulfides (potassium, ammonium, calcium and sodium) cause softening and irritation of the skin. If taken by mouth they are corrosive and irritant through the liberation of hydrogen sulfide and free alkali. Hydrogen sulfide is especially toxic. Sulfides of the heavy metals are generally insoluble, hence, have little toxic action except through the liberation of hydrogen sulfide. When heated to decomposition, emit highly toxic fumes of oxides of sulfur. React with water, steam or acids to produce toxic and flammable vapors of hydrogen sulfide.	
EXPOSURE		

	SULFITES	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Fairly large doses of sulfites can be tolerated since they are rapidly oxidized to sulfates, although, if swallowed they may cause irritation of the stomach by liberating sulfurous acid. When heated to decomposition, emit highly toxic fumes of sulfur dioxide. Will react with water, steam or acids to produce a toxic and corrosive material.	
EXPOSURE		

CAS No. 126-33-0	SULFOLANE Colorless oily liquid; weak oily odor.	
SYNONYMS	Tetrahydrothiophene-1,1-dioxide, tetramethylene sulfone.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE.	
EXPOSURE	Liquid Not irritating to skin. Harmful if swallowed. Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, do nothing except keep victim warm. CALL FOR MEDICAL AID.	

CAS No. 7704-34-9	SULFUR (LIQUID) Yellow to brown to gray liquid; rotten egg odor.	
SYNONYMS	Brimstone, flowers of sulfur, sulfur flour.	
SAFETY MEASURES	Avoid contact with liquid and solid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GAS IS PRODUCED IN FIRE. Hazardous on contact with oxidizing materials. Vapor forms explosive mixtures in air. Low health hazard if no fire involvement. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

	SULFUR COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity variable. When heated to decomposition, can evolve highly toxic fumes containing oxides of sulfur.	
EXPOSURE		

CAS No. 7446-09-5	SULFUR DIOXIDE Colorless, liquefied gas; irritating odor.	
SYNONYMS	Sulfurous acid anhydride.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Non-flammable. In moist air or fogs it combines with water to form sulfurous acid which very slowly oxidizes to sulfuric acid. Highly toxic. Dangerous to the eyes and respiratory tract. Corrosive and poisonous. Excessive exposure can be fatal. Strong irritant. TLV 5 ppm in air; 13 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

CAS No. 10025-67-9	SULFUR MONOCHLORIDE Yellow to red oily liquid; irritating odor.	
SYNONYMS	Sulfur chloride, sulfur subchloride.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. When heated to decomposition, emits toxic fumes of chlorides and oxides of sulfur. On contact with water, decomposes to form hydrogen chloride, thiosulfuric acid, and sulfur. Highly irritating fumes. See chlorides. TLV 1 ppm in air; 6 mg/m³ of air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes. Poisonous if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Poisonous if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7664-93-9	SULFURIC ACID Colorless, odorless oily liquid	
SYNONYMS	Oil of vitriol, dipping acid, fertilizer acid, battery acid, hydrogen sulfate.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID. Wear goggles, self-contained breathing apparatus, and rubber overclothing.	
HAZARDS	Non-flammable. May cause fire on contact with combustibles. Flammable gas may be produced on contact with metals. Mixes violently with water; irritating mist is produced. Can react with oxidizing or reducing materials. POISONOUS GAS MAY BE PRODUCED IN FIRE. Contact with body results in rapid destruction of tissues causing severe burns. TLV 1 mg/m ³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Mist</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing, difficult breathing or loss of consciousness. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 7791-25-5	SULFURYL CHLORIDE Colorless to yellow liquid; acrid odor.	
SYNONYMS	Sulfuric chloride, chlorosulfuric acid, sulfonyl chloride, sulfuric oxychloride.	
SAFETY MEASURES	Avoid contact with liquid and gas. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Non-flammable. Flammable gas may be produced on contact with metals. When heated to decomposition, emits highly toxic fumes of chlorides and oxides of sulfur. Mixes and reacts violently with water producing sulfuric acid and poisonous gas of hydrogen chloride. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing, difficult breathing, or loss of consciousness. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. If breathing is difficult, give artificial respiration. If breathing has stopped, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 93-76-5	2,4,5-T ACID Crystals; light tan solid.	
SYNONYMS	2,4,5-trichlorophenoxyacetic acid.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, it emits highly toxic fumes of chlorides. Highly toxic. Possible liver and kidney damage. See chlorides. TLV 10 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

	2,4,5-T ESTERS 2,4,5-trichlorophenoxyacetic esters.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS		
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1401-55-4	TANNIC ACID Yellowish-white, brown bulky powder or flakes.	
SYNONYMS	Tannin, gallotannic acid.	
SAFETY MEASURES		
HAZARDS	Slightly flammable when exposed to heat or flame. Mild irritant. Toxic by ingestion or inhalation.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 27013-25-3	TDE Crystals.	
SYNONYMS	DDD, tetrachlorodiphenyl ethane, 1,1-dichloro-2,2-bis(p-Chloro-phenyl)ethane.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits highly toxic fumes of chlorides. Toxic by ingestion, inhalation, and skin absorption.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 127-18-4	TETRACHLOROETHYLENE Colorless, watery liquid; sweet odor.	
SYNONYMS	Tetracap, Perclene, perchloroethylene carbon dichloride, ethylene tetrachloride.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective clothing and self-contained breathing apparatus.	
HAZARDS	Non-flammable. Poisonous gases of chlorides are produced when heated. Irritating vapor is produced when mixed with water. Highly toxic by ingestion and inhalation. Acts as an anesthetic. Moderately toxic through skin absorption. TLV 100 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 1120-36-1	1-TETRADECENE Colorless liquid; mild pleasant odor.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Combustible. May react with oxidizing materials. Probably irritant and narcotic in high concentrations.	
EXPOSURE	<u>Liquid</u> Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 73-00-2	TETRAETHYL LEAD Colorless oily liquid; fruity odor.	
SYNONYMS	TEL, lead tetraethyl.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Combustible. POISONOUS GASES OF LEAD ARE PRODUCED IN FIRE. Containers may explode in fire. Vapor may explode if ignited in an enclosed area. Can react with oxidizing materials. Highly toxic by ingestion, inhalation, and skin absorption. A cumulative poison. TLV 0.075 mg/m³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Vapor POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 107-49-3	TETRAETHYL PYROPHOSPHATE White to amber, hygroscopic liquid.	
SYNONYMS	TEPP, Fosvex, Hesamite, Nifos, TEP, Tetron, Vamptone.	
SAFETY MEASURES		
HAZARDS	WHEN HEATED TO DECOMPOSITION, EMITS HIGHLY TOXIC FUMES. Highly toxic by ingestion, inhalation, or skin absorption. See parathion as toxic actions are similar. TLV 0.05 mg/m³ of air; 0.004 ppm by skin absorption.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 109-99-9	TETRAHYDROFURAN Colorless liquid; faint fruity odor.	
SYNONYMS	Cyclotetramethylene oxide, diethylene oxide, THF.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Flammable, irritating vapor is produced when mixed with water. Can react with oxidizing materials. When heated to decomposition, emits toxic fumes. Forms thermally explosive peroxides on exposure to air. Irritating to eyes and mucous membranes. Narcotic in high concentrations. TLV 200 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 119-64-2	TETRAHYDRONAPHTHALENE Colorless liquid; moldy turpentine odor.	
SYNONYMS	Tetralin, Tetranap.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable. Can react with oxidizing materials. Narcotic in high concentrations. Irritating to skin, eyes, and mucous membranes. Hazardous by ingestion or inhalation. Reported as causing cataracts.	
EXPOSURE	<u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 75-74-1	TETRAMETHYL LEAD Colorless oily liquid; fruity odor.	
SYNONYMS	Lead Tetramethyl.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Flammable. Containers may explode in fire. Vapor may explode if ignited in an enclosed area. Explosive in the form of vapor when exposed to flame. When heated to decomposition, emits highly toxic fumes of lead. Poisonous, flammable vapor is produced when mixed with water. Reacts vigorously with oxidizing materials. Powerful poison. Highly toxic by all routes. Fatal lead poisoning may occur by ingestion, inhalation, or skin absorption. TLV 0.150 mg/m³ by skin absorption.	
EXPOSURE	<u>Vapor</u> POISONOUS IF INHALED. Irritating to eyes. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Will burn eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 7550-45-0	TITANIUM TETRACHLORIDE Colorless to yellow liquid; irritating odor.	
SYNONYMS	Titanic chloride.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Equipment should be acid-resistant.	
HAZARDS	Non-flammable. Reacts violently with water. Produces dense fumes in air. Highly corrosive because it liberates heat and hydrochloric acid upon contact with moisture. If spilled on skin, wipe off with dry clothing before applying water. Highly toxic. Irritates skin, eyes, and respiratory tract. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing and headache. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. If swallowed, will cause nausea and vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 108-88-3	TOLUENE Colorless liquid; pleasant odor.	
SYNONYMS	Toluol, methylbenzene, methylbenzol, phenylmethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. When heated, it emits toxic fumes. Flammable, irritating vapor is produced when mixed with water. Can react vigorously with oxidizing materials. Narcotic in high concentrations. Eye and respiratory irritant. Hazardous by all exposure routes. Can be absorbed by the skin. TLV 100 ppm by skin absorption; 200 ppm in air. DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause nausea, vomiting, headache, dizziness, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 584-34-9	TOLUENE-2,4-DIISOCYANATE Colorless to yellow liquid; sharp sweet fruity odor.	
SYNONYMS	TDI, Hylene T, Mondur TDS, Naccanate 100, 2,4-tolylene diisocyanate.	
SAFETY MEASURES	AVOID CONTACT WITH LIQUID AND VAPOR. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible. POISONOUS GAS IS PRODUCED IN FIRE. Reactive in confinement. Highly toxic by ingestion and inhalation. Vapors cause serious lung damage. Strong irritant to skin and tissues, especially to eyes. TLV 0.02 ppm.	
EXPOSURE	Liquid POISONOUS IF SWALLOWED. Will burn skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 0001-35-2	TOXAPHENE Amber waxy solid or in solution	
SYNONYMS	Chlorinated camphene, Strobane, Alltox, Geniphene, Toxakil, Toxadust, Octachlorocamphene.	
SAFETY MEASURES	Avoid contact with solid and solution. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).	
HAZARDS	Solid not flammable, but usually dissolved in combustible liquid. POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE. Highly toxic by ingestion, inhalation, and skin absorption. About four times as toxic as DDT. Can cause death. Systemic absorption of toxaphene is increased by the presence of digestible oils. The liquid preparations penetrate the skin more readily than do dusts and wettable powders. Lethal dose is estimated to be 2 to 7 grams. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid or Solution POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS, or having CONVULSIONS, limit first aid to keeping victim quiet and warm. CALL FOR MEDICAL AID.	

CAS No. 52-68-6	TRICHLORFON	
SYNONYMS	Dipterex, Dylox.	
SAFETY MEASURES		
HAZARDS	Highly toxic. Absorbed by the skin. Affects the nervous system. See chlorides, phosphates, and parathion.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 25323-89-1	TRICHLOROETHANE Colorless liquid; sweet odor.	
SYNONYMS	Methyl chloroform, vinyl trichloride, 1, 1, 1-trichloroethane.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear chemical-protective suit and self-contained breathing apparatus.	
HAZARDS	Combustible. POISONOUS GASES OF CHLORIDES ARE PRODUCED IN FIRE. Irritating vapor is produced when mixed with water. Can be absorbed by the skin. Narcotic in high concentrations. Local irritant to eyes, nose and lungs. See chlorides. TLV 350 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose, and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, may produce nausea. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 79-01-6	TRICHLOROETHYLENE Colorless, liquid; sweet odor.	
SYNONYMS	Ethinyl trichloride, ethylene trichloride, trichloroethene, triclene.	
SAFETY MEASURES		
HAZARDS	Combustible. POISONOUS GASES OF OXIDES OF CHLORIDES ARE PRODUCED IN FIRE. Irritating vapor is produce when mixed with water. Highly toxic by inhalation. Moderately toxic by ingestion and skin absorption. High concentrations cause narcosis and anesthesia. Moderate concentrations cause headache and drowsiness. Can cause cardiac failure and death. See chlorides. TLV 100 ppm.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, vomiting, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, difficult breathing or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk, and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 75-69-4	TRICHLOROFLUOROMETHANE Colorless, odorless liquid.	
SYNONYMS	F-11, Frenoil, Genetronil, Fluorotrichloromethane Fluorocarbon-11.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Non-flammable. POISONOUS GASES OF FLUORIDES AND CHLORIDES ARE PRODUCED IN FIRE. Harmful vapor is produced when mixed with water. High concentrations cause narcosis and anesthesia. Can be absorbed by the skin. Mild irritant. Slight hazard by all exposure routes. TLV 1000 ppm in air.	
EXPOSURE	<u>Vapor</u> If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Not harmful. CALL FOR MEDICAL AID.	

CAS no. 25167-32-2	TRICHLOROPHENOL Yellow crystals or flakes; disinfectant odor.	
SYNONYMS	Dowicide 2, Phenachlor, 2,4,5-trichlorophenol.	
SAFETY MEASURES		
HAZARDS	Flammable. When heated to decomposition, emits highly toxic fumes. Highly toxic by ingestion and inhalation. Strong irritant. Absorbed by the skin. Can cause liver, lung, kidney damage or death. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Dust or Solid</u> Irritating to eyes, nose and throat. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 1330-78-5	TRICRESYL PHOSPHATE Colorless, odorless liquid.	
SYNONYMS	TCP, tritolyl phosphate, mixture of o-, m-, and p-isomers, tolyl-phosphate.	
SAFETY MEASURES		
HAZARDS	Combustible. When heated to decomposition, it emits toxic fumes of phosphorus oxides. Can react with oxidizing materials. Moderately toxic by ingestion and skin absorption. The ortho isomer is highly toxic. TLV 0.1 mg/m³ of air.	
EXPOSURE	<u>Liquid</u> Harmful if swallowed. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 121-44-8	TRIETHYLAMINE Colorless liquid; fishy odor.	
SYNONYMS	TEN.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Reacts vigorously with oxidizing materials. Flammable and irritating vapor is produced on contact with water. When heated to decomposition, emits toxic vapors. Highly toxic by ingestion and inhalation. Strong irritant to tissues. May cause liver and kidney damage. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause coughing, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, limit first aid to keeping victim warm. CALL FOR MEDICAL AID.	

CAS No. 112-24-3	TRIETHYLENETETRAMINE Straw to amber oily liquid; ammonia odor.	
SYNONYMS	TETA, N,N,-Bis(2-aminoethyl)ethylene-diamine.	
SAFETY MEASURES	Avoid contact with liquid. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).	
HAZARDS	Combustible.	
EXPOSURE	Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 75-50-3	TRIMETHYLAMINE Colorless, liquefied compressed gas; fish odor.	
SYNONYMS		
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Floats, mixes and boils on water. Poisonous, flammable, visible vapor cloud is produced. Can react with oxidizing materials. When heated to decomposition, emits highly toxic fumes.	
EXPOSURE	Vapor POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Liquid Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No.	TURPENTINE Colorless liquid; penetrating unpleasant odor.	
SYNONYMS	Spirits of turpentine, turps, gum turpentine, wood turpentine, gum thus.	
SAFETY MEASURES	Avoid contact with liquid and vapor.	
HAZARDS	Flammable. Flashback along vapor trail may occur. Irritating vapor is produced on contact with water. Highly toxic by ingestion. Moderately toxic by inhalation and skin absorption. Mild allergen. TLV 100 ppm in air. Dangerous to aquatic life in high concentrations.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> POISONOUS IF SWALLOWED. Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 30207-98-8	UNDECANOL Colorless liquid; mild odor.	
SYNONYMS	Hendecanol, alcohol c-11, undecyl alcohol.	
SAFETY MEASURES		
HAZARDS	Combustible.	
EXPOSURE	Liquid Irritating to eyes. IF IN EYES, hold eyelids open and flush with plenty of water. CALL FOR MEDICAL AID.	

CAS No. 821-95-4	1-UNDECENE Colorless liquid; mild odor.	
SYNONYMS	α-Nonylethylene.	
SAFETY MEASURES	Avoid contact with liquid.	
HAZARDS	Flammable. Potential irritant and narcotic in high concentrations.	
EXPOSURE	Liquid Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 19525-15-6	URANIUM PEROXIDE Pale yellow crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Fire and explosion risk on contact with organic materials. Uranium compounds are highly toxic, especially if soluble. Recognized carcinogen.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 541-09-3	URANYL ACETATE Rhombic yellow crystals.	
SYNONYMS	Uranium oxyacetate.	
SAFETY MEASURES		
HAZARDS	Uranium compounds are highly toxic. A recognized carcinogen.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10102-06-4	URANYL NITRATE Rhombic yellow crystals.	
SYNONYMS	Uranium oxynitrate.	
SAFETY MEASURES		
HAZARDS	Severe fire and explosive risk when shocked or heated, or in contact with organic materials. Highly toxic.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 1314-64-3	URANYL SULFATE Yellow-green crystals.	
SYNONYMS	Uranium oxysulfate.	
SAFETY MEASURES		
HAZARDS	Uranium compounds are highly toxic. A recognized carcinogen. See sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 110-62-3	VALERALDEHYDE Colorless watery liquid; fruity odor.	
SYNONYMS	Amyl aldehyde, valeric aldehyde, pentanal, valeral.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Stay upwind.	
HAZARDS	Highly flammable. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Mildly irritant and narcotic by ingestion or inhalation.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. Move to fresh air. <u>Liquid</u> Irritating to skin and eyes. Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

	VANADIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Toxicity is variable. Vanadium compounds act chiefly as irritants to the conjunctiva and respiratory tract. Prolonged exposure may lead to pulmonary involvement.	
EXPOSURE		

CAS No. 1314-62-1	VANADIUM PENTOXIDE Yellow to red crystalline powder.	
SYNONYMS	Vanadic acid anhydride.	
SAFETY MEASURES		
HAZARDS	Highly toxic by inhalation. TLV dust 0.5 mg/m³ of air; fumes 0.1 mg/m³ of air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 27774-13-6	VANADYL SULFATE Blue crystals.	
SYNONYMS	Vanadic sulfate, vanadium sulfate.	
SAFETY MEASURES		
HAZARDS	May be toxic and irritant.	
EXPOSURE	CALL FOR MEDICAL AID.	

C/S No. 103-05-1	VINYL ACETATE Colorless liquid; pleasant fruity odor.	
SYNONYMS	VyAc, Vinyl A monomer.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus.	
HAZARDS	Highly flammable. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Will react with oxidizing materials. Reacts violently with peroxides. Flammable, irritating vapor is produced on contact with water. When heated to decomposition, emits acrid fumes. Vapor is narcotic in high concentration. Vapor will irritate eyes. Low toxicity. Skin irritant. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. Harmful if swallowed or if spilled on skin. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. CALL FOR MEDICAL AID.	

CAS No. 75-01-4	VINYL CHLORIDE Colorless, liquefied compressed gas; sweet odor.	
SYNONYMS	Chloroethylene, chloroethene, VCl, Vinyl C monomer.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear self-contained breathing apparatus. Stay upwind.	
HAZARDS	Extremely flammable. Flashback along vapor trail may occur. POISONOUS GAS OF PHOSGENE IS PRODUCED IN FIRE. Vapor may explode if ignited in an enclosed area. Can react vigorously with oxidizing materials. Liquid floats and boils on water, producing flammable, irritating, visible vapor cloud. In high concentrations acts as an anesthetic. Causes skin burns by rapid evaporation. Consequent freezing may be fatal in high concentrations. TLV 500 ppm in air.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause dizziness or difficult breathing. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Will cause frostbite. Flush affected areas with plenty of water. DO NOT RUB AFFECTED AREAS. CALL FOR MEDICAL AID.	

	WAXES: CARNAUBA Odorless, yellow to dark green thick liquid.	
SYNONYMS	Brazil wax.	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials.	
EXPOSURE	Liquid Will burn skin and eyes. Remove wax. Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

	WAXES: PARAFFIN Yellow to white thick liquid; waxy odor.	
SYNONYMS	Petroleum wax.	
SAFETY MEASURES		
HAZARDS	Combustible. Can react with oxidizing materials.	
EXPOSURE	Liquid Will burn skin and eyes. Remove wax. Flush affected areas with plenty of water. CALL FOR MEDICAL AID.	

	XYLENE: ORTHO, META, PARA Colorless, watery liquid; sweet odor.	
SYNONYMS	o-,p-, and m-xylol.	
SAFETY MEASURES	Avoid contact with liquid and vapor. Wear self-contained breathing apparatus.	
HAZARDS	Flammable. Flashback along vapor trail may occur. Vapors may explode if ignited in an enclosed area. Can react with oxidizing materials. Toxic. Vapors are anesthetic in high concentrations. Irritant to skin and upper respiratory tract. TLV 100 ppm. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	<u>Vapor</u> Irritating to eyes, nose and throat. If inhaled, will cause headache, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. <u>Liquid</u> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING. CALL FOR MEDICAL AID.	

CAS No. 157-71-6	XYLENOL	
SYNONYMS	3,5-dimethylphenol, 1-hydroxy-3,5-dimethylbenzene, 5-hydroxy-1,3-dimethylbenzene, dimethyl phenol, hydroxydimethylbenzene.	
SAFETY MEASURES		
HAZARDS	Flammable. Can react with oxidizing materials. When heated to decomposition, emits toxic fumes. Highly toxic by ingestion and skin absorption. Fatal amounts can be absorbed by the skin in 30 minutes. Strong irritant. See phenol.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 315-13-4	ZECTRAN	
SYNONYMS	Mexacarbate.	
SAFETY MEASURES		
HAZARDS		
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 557-34-6	ZINC ACETATE Monoclinic crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits zinc oxide fumes. Low oral toxicity. Mildly irritating to skin and mucous membranes. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

US No. 52620-25-8	ZINC AMMONIUM CHLORIDE	
SYNONYMS	Zalcon.	
SAFETY MEASURES		
HAZARDS	Low toxicity. See zinc compounds and chlorides.	
EXPOSURE	CALL FOR MEDICAL AID.	

C/S No. 13014-07-4	ZINC AMMONIUM SULFATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See zinc compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14016-95-2	ZINC BICHROMATE Orange-yellow powder; red-brown crystals.	
SYNONYMS	Zinc dichromate.	
SAFETY MEASURES		
HAZARDS	Flammable by chemical reaction. Can react with reducing materials. A powerful oxidizing agent. Highly toxic by ingestion and inhalation.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7699-45-8	ZINC BROMIDE Rhombic colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Low toxicity. See zinc compounds and bromides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 3486-35-9	ZINC CARBONATE White crystalline powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Nontoxic. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7046-85-7	ZINC CHLORIDE Odorless, white solid.	
SYNONYMS	Butter of zinc.	
SAFETY MEASURES	Avoid contact with solid and solution. Filter mask required or self-contained breathing apparatus if in fire.	
HAZARDS	Non-flammable. Combustion with moderate heating. When heated to decomposition, emits highly toxic fumes. Can cause ulceration of skin. Dose of 6 grams has been fatal to man. TLV Fumes - 1 mg/m ³ of air. HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.	
EXPOSURE	Solid or Solution Irritating to skin and eyes. If swallowed, will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, do nothing except keep victim warm. CALL FOR MEDICAL AID.	

	ZINC COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Zinc is not inherently toxic, however, when heated it evolves a fume of zinc acid which, when inhaled fresh, can cause a disease called "Brass founders' ague" or "Brass chills." Zinc oxide dust which is not freshly formed is virtually innocuous. There is no cumulative effect. Fatalities however, have resulted from lung damage caused by inhalation of high concentrations of zinc chloride fumes. Soluble salts of zinc in small doses can cause nausea and vomiting. Large doses can cause violent vomiting and surging. TLV 5 mg/m³	
EXPOSURE		

CAS No. 557-21-1	ZINC CYANIDE Rhombic, colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Soluble in dilute mineral acids with production of hydrogen cyanide. Highly toxic by ingestion and inhalation. See zinc compounds and cyanides.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7783-49-5	ZINC FLUORIDE White powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly toxic. See zinc compounds and fluorides. TLV 2.5 mgm³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 557-41-5	ZINC FORMATE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	May be toxic by ingestion. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7779-88-6	ZINC NITRATE Needles or tetragonal colorless crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly flammable. Explosive. Strong oxidizing agent. May explode if shocked or heated. When heated to decomposition, emits highly toxic vapors. Slight ingestive hazard.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 23414-72-4	ZINC PERMANGANATE Violet brown or black crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Flammable. Strong oxidizing agent. Flammable when in contact with organic materials. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 127-82-2	ZINC PHENOLSULFONATE	
SYNONYMS	Zinc sulfocarbolate, zinc sulfophenate.	
SAFETY MEASURES		
HAZARDS	Probably toxic by ingestion. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 51810-70-9	ZINC PHOSPHIDE Cubic, dark gray crystals or powder.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Reacts violently with acids or acid fumes to emit highly toxic phosphine. Highly toxic by ingestion. See zinc compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

C/S No. 11103-06-9	ZINC POTASSIUM CHROMATE	
SYNONYMS	Citron yellow, buttercup yellow, zinc chrom, zinc yellow.	
SAFETY MEASURES		
HAZARDS	Toxic by ingestion. See zinc compounds and chromium compounds.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 557-23-0	ZINC PROPIONATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Combustible. Decomposes in moist atmosphere liberating propionic acid. Low toxicity. See zinc compounds and propionic acid.	
EXPOSURE	CALL FOR MEDICAL AID.	

C/S No. 16371-71-9	ZINC SILICOFLUORIDE		
SYNONYMS	Zinc fluosilicate.		
SAFETY MEASURES			
HAZARDS	Highly toxic. See zinc compounds.		
EXPOSURE	 CALL FOR MEDICAL AID.		

C/S No. 7735-02-0	ZINC SULFATE Rhombic, colorless crystals.	
SYNONYMS	Zinkosite.	
SAFETY MEASURES		
HAZARDS	When heated to decomposition, emits toxic vapors. Low toxicity. See zinc compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

C/S No. 7446-19-7	ZINC SULFATE MONOHYDRATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	See zinc compounds and sulfates.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7555-20-8	ZIRCONIUM ACETATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	TLV 5 mg/m ³	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 16919-31-6	ZIRCONIUM AMMONIUM FLUORIDE White rhombic or colorless crystals.	
SYNONYMS	Ammonium zirconifluoride.	
SAFETY MEASURES		
HAZARDS	Highly toxic and irritant. TLV 5 mg/m ³ in air.	
EXPOSURE	 CALL FOR MEDICAL AID.	

	ZIRCONIUM COMPOUNDS	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Most zirconium compounds in common use are insoluble and considered inert. Pulmonary granuloma has been reported in zirconium workers. Sodium zirconium lactate has been held responsible for skin granulomas. Consider zirconium compounds toxic. TLV 5 mg/m³ in air.	
EXPOSURE		

CAS No. 13716-89-9	ZIRCONIUM NITRATE White crystals.	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Highly flammable and explosive risk in contact with organic materials. Strong oxidizing agent. See nitrates. TLV 5 mg/m³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 7593-43-6	ZIRCONIUM OXYCHLORIDE	
SYNONYMS	Zirconium chloride basic, zirconyl chloride.	
SAFETY MEASURES		
HAZARDS		
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 16023-95-8	ZIRCONIUM POTASSIUM FLUORIDE	
SYNONYMS	Potassium fluorzirconate, potassium zirconifluoride.	
SAFETY MEASURES		
HAZARDS	Toxic and irritant. See fluorides. TLV 5 mg/m³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 14644-61-2	ZIRCONIUM SULFATE	
SYNONYMS		
SAFETY MEASURES		
HAZARDS	Emits toxic vapors when heated to decomposition. See zirconium compounds. TLV 5 mg/m³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	

CAS No. 10025-11-6	ZIRCONIUM TETRACHLORIDE White lustrous crystals.	
SYNONYMS	Zirconium chloride.	
SAFETY MEASURES		
HAZARDS	Toxic and irritant. See zirconium compounds and chlorides. TLV 5 mg/m ³ in air.	
EXPOSURE	CALL FOR MEDICAL AID.	